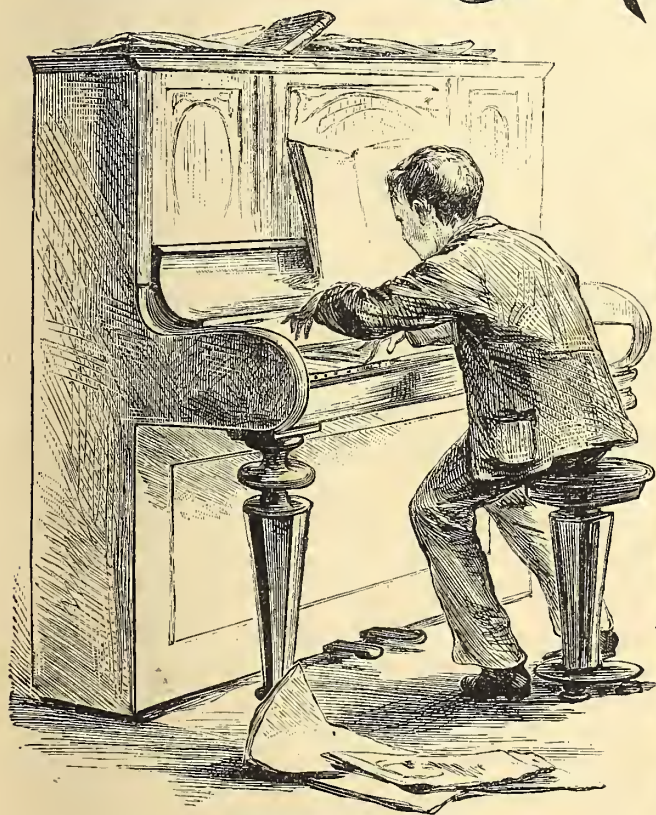


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School & THE WORLD.



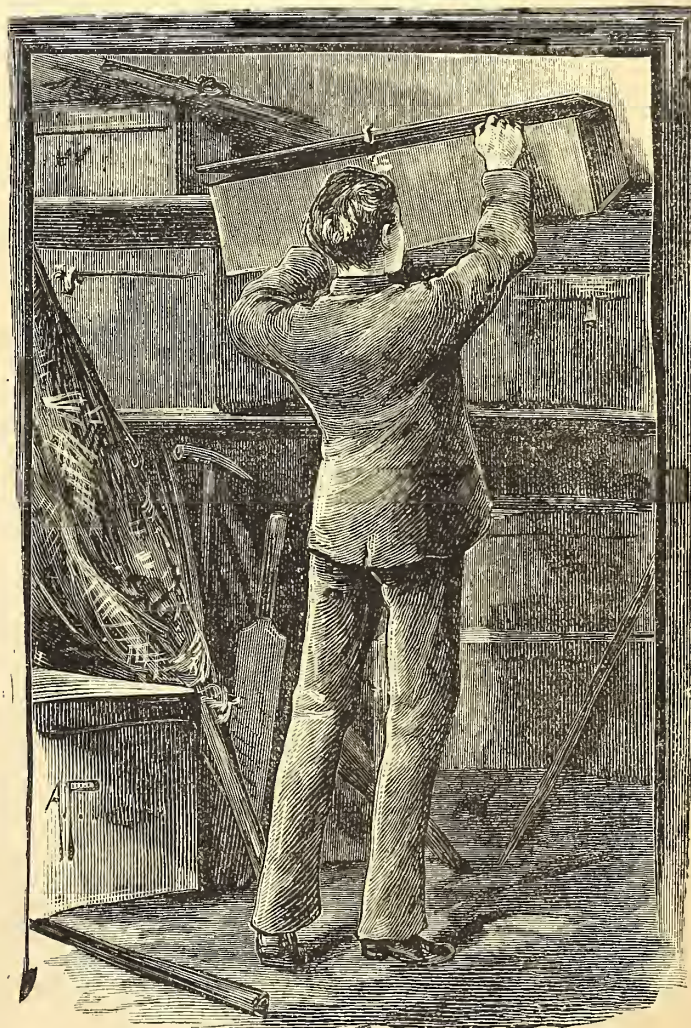
A STORY OF SCHOOL AND CITY LIFE.

BY PAUL BLAKE,

Author of "The Two Chums," "The New Boy," etc.

CHAPTER I.

A HOT, drowsy afternoon, time 4.15 p.m. All the boys except the head form are out in the gravel playground, drilling under the martial eye of Sergeant Pocock. The happy boys who in virtue of their position are respited, are lounging about the house. They feel it is uncommonly hard they may not go into the grounds, but that they are forbidden to do. It would be extra torture for the amateur privates if they could see their companions lying



at ease in the shade whilst they were marching and counter marching in the broiling sun.

There is one exception to those who are respited: Soady is in the little second-floor class-room known as the music-room. Its furniture consists of the usual forms and cupboard with a piano in addition. There is no music-stool: the musician has to drag a form across the room and sit straddle-wise on it.

Up and down the old piano go Soady's thick fingers. He is practising scales and does not find it very amusing.

"One, two, three, four," he counts monotonously, as he travels from the jangling bass to the thin, wiry treble. He goes placidly on till he finds his "three, four" come where his "one, two" ought to be, then again he starts from the bottom A. Every now and then there is a hitch, as the third finger gets out of order or sticks close to the fourth. Soady finds his third finger singularly disobedient; it has a lack of independence. He pounds away perseveringly, but half wishes he were out in the playground with the school, even although there he must obey the strident-voiced sergeant, whose "Form fours! march!" he can every now and then hear through the open windows.

He is not the only one who finds his music a nuisance. There is Ferguson in the class-room below the music-room trying hard to get a nap.

"I wish that beggar Soady would shut up his everlasting scales," he mutters, angrily, to Lang, who is reading a story.

"Yes," assents the other, "he never seems to get any better: he makes just the same mistakes as he did when he began."

"And the worst of it is, one can't help listening for them," said Ferguson. "It's wearing my nerves out: he's a nuisance to the neighbourhood. And he's got no more idea of music than a cow. What on earth he learns for is more than I can make out."

There was a pause in the music.

"He's going to play Auld Lang Syne now," continued Ferguson. "I can't stand that, I'm going up to stop him: he's taken all the sleep out of me. I mean to cut the strings of that old rattle-trap one of these days."

As he predicted, the strain of Auld Lang Syne came floating through the open window; it was an arrangement in two parts and singularly irritating. Ferguson got up, and announcing that he was going to make "that young Mozart shut up," strode through the schoolroom, several of the boys there following him to see the fun.

There was not much to see. Soady heard footsteps up the stairs and promptly locked the door. When Ferguson kicked it the only response was "Auld Lang Syne" through the key-hole.

"You Soady there," shouted Ferguson, "if you don't shut up your row on that old domino box I'll—"

"You hook it," was the only response; "I'm practising."

The boys slowly tumbled down the narrow stairs again, feeling that they had been sold. Ferguson thought of storming Soady's stronghold by shying pebbles through the bottom part of the window, which was open; but it was too risky a shot to be attempted without great pro-

vocation. So he retreated in great wrath and curled himself up in a corner of the schoolroom, as far as possible from the instrument of torture overhead.

Soady after a time became tired. His fingers were sticky and would not work, so he left his perch to stretch his limbs. He strolled to the window and looked out. There was not much of an immediate view. He could see the "quad" of the three-sided quadrangle; over the wall on the south the trees were gently swaying, beyond them could be caught a glimpse of the distant hills. His gaze wandered back from them to the nearer objects.

At the farther corner of the "quad" was the coach-house, now turned into a store-room for all the miscellaneous effects of the boys which were too bulky to be stored in desks or boxes. Those who wished had boxes or lockers in this Rummage-room, as the disused coach-house was universally called. The upper form made but little use of it, as they had a sort of study of their own.

As Soady gazed idly out of his little window he saw Lang cross the quadrangle and open the door of the Rummage-room. He left it wide open after him. From curiosity Soady watched him. He only lifted down a long box, in which cricketing apparatus was kept, took out a ball, replaced the box, and came whistling out into the open air again, shutting the door behind him.

"Nothing remarkable about that," so Soady thought. It was scarcely worth while looking out of window any more if that was all that was to be seen. He sauntered back to his piano, and was just going to recommence his onslaught, when some one tried to open the door.

"No, you don't!" muttered Soady, starting his melody.

"Open the door!" cried an imperious voice.

In two strides Soady was across the room.

"What have you locked yourself in for?" asked Mr. Pickering.

"Didn't want to be interrupted, sir," was the reply.

"Have you seen Lang?" asked the master. "He isn't in the schoolroom; I thought he might be up here."

"I saw him come out of the Rummage-room a minute ago, sir; he came in at the big door, so he must be in the school-room now."

Mr. Pickering went downstairs again, and, as Soady anticipated, found the boy he was in search of.

"Lang, I want my Todhunter's Algebra that I lent you."

"Here it is, sir," said Lang, handing him the volume from his desk.

"Thank you. You can have it again to-morrow."

"Thank you, sir."

Mr. Pickering left the room with the book under his arm. Lang settled down to read again as Soady began once more to practise. Little did either of them imagine that the brief interval during which the musician had listlessly gazed out of the window was the most important part of the day to at least one of them.

(To be continued.)

FROM THE COBBLER'S STALL TO FAME.



WHAT a wonderful number of distinguished men have worked in early life at the cobbler's stall! In Mr. W. E. Winks's interesting book on "Illustrious Shoemakers" we have sketches of over fifty knights of the leathern apron who have risen to eminence, and these by no means exhaust the list that will readily occur to lovers of biography.

We have, first, Kit Mings, the famous admiral who beat the Spanish and the Dutch, and who fell in the four days' battle off the Foreland, where he led the van and fought his ship for half an hour after he had received a musket ball in his throat. His crew, according to Macaulay, "followed his corpse to the grave, weeping and vowing vengeance." He had forsaken his shoemaker's bench to become a cabin-boy; his cabin-boy was Sir John Narborough; and Narborough's cabin-boy was Sir Cloudesley Shovel, the other cobbler lad who became an admiral, and the story of whose life we have already told in the columns of the Boy's Own Paper.

We have, of course, good George Fox, the founder of the Society of Friends, and Samuel Drew, the "self-taught Cornishman," who began life as a buddle-boy in a Cornish mine, and wrote his first books on the bellows on his knees as he sat by the kitchen fire—books which have given him his fame as one of the foremost metaphysicians of his country. We have Robert Kitto, the Biblical scholar; John Thorp; Samuel Bradburn, the Wesleyan Demosthenes, who for forty years was the ablest public speaker the denomination possessed; and the eloquent William Huntingdon, who after trying his hand as ostler, gardener, cobbler, and coalheaver, gave himself his own degree of s.s., and "fairly electrified his audiences into salvation."

We have Dr. Robert Morrison, the pioneer of modern missions in China, and Dr. William Carey, "only a cobbler," who translated the Bible into Bengali and Hindustani, and from Serampore laid the true foundation of the evangelisation of India.

We have James Lackington, the bookseller, the "Sutor ultra crepidam feliciter ausus," the shoemaker who happily abandoned his last, and William Gifford, the satirist, the first editor of the "Quarterly Review." We have Richard Castell, "ye cocke of Westminster," the real founder of the Bluecoat School; and Bach, the founder of the sons of St. Crispin. We have Jacob Boehmen, the mystic, the favourite of all deep thinkers; among the artists we have Capellini, Brizzio, and De Jong; among the politicians we have Thomas Cooper, George Odger, Thomas Hardy, and Henry Wilson of Natick; and among the poets we have Robert Bloomfield, the Suffolk lad who wrote the "Farmer's Boy," and J. G. Whittier; and among the minor stars Woodhouse, Bennet of Wood-

stock, Richard Savage, "the unfortunate;" Olivers, the hymn-writer; Blacket, the "son of sorrow;" Holcroft, the dramatist; Foster, Johnstone, Nichol, Deolin, and Gavin Wilson; Temperance O'Neill; Younger, the fly-fisher of St. Boswell's; and, earlier than all and greater than all, the indefatigable Hans Sachs, "the nightingale of the Reformation," who by the time he was fifty-two had written and published 4,275 songs, 208 comedies and tragedies, and over 1,700 tales, dialogues, and other pieces!

A truly dazzling array of names that it would be difficult to surpass from any other trade! And a capital book has Mr. Winks made! Among his sketches, however, there is none more pleasing than that of John Pounds, the Portsmouth cobbler who did so much for the poor children of his native town, and of whom, as the real originator of ragged schools, we must here find space to give somewhat more lengthened mention.

Dr. Thomas Guthrie relates how he was first led to take an interest in ragged schools through an engraving of Pounds from a portrait by Sheaf, of Landport, who was also "an illustrious shoemaker."

It was at Chalmers's birthplace at Anstruther, described by him as "an old, obscure, decayed bough on the shore of the Firth of Forth." "Going on to the inn," he writes, "I found the room covered with pictures of shepherdesses, with their crooks, and tars in holiday attire, not very interesting. But above the chimney-piece there stood a large print more respectable than its neighbours, which a skipper, the captain of one of the few ships that trade between that town and England, had probably brought there. It represented a cobbler's room. The cobbler was there himself, spectacles on nose, an old shoe between his knees, the massive forehead and firm mouth expressing great determination of character, and below his bushy eyebrows benevolence gleamed out on a number of poor ragged boys and girls, who stood at their lessons round him. My curiosity was excited, and on the inscription I read how this man, John Pounds, a cobbler in Portsmouth, taking pity on the poor ragged children, left by ministers and magistrates and ladies and gentlemen to run the streets, had, like a good shepherd, gathered in the wretched outcasts; how he had brought them to God and the world, and how, while earning his bread by the sweat of his brow, he had rescued from misery and saved to society not less than five hundred of these children."

This genuine philanthropist was born at Portsmouth in 1766, and was the son of a sawyer. At twelve years old he was apprenticed to a shipwright, and soon afterwards fell into a dry dock, broke his thigh, and lamed himself for life. Shipwright's work being now out of the question, he took up shoemaking—or rather shoemending, for, like nearly all Mr. Winks's "Illustrious Shoemakers," he never became very great at his craft, though, unlike most of them, he did not distinguish himself by forsaking it as soon as opportunity offered.

Pounds had a natural gift for teaching, and finding that by patience he could make his jays, starlings, canaries, and other pets do the most extraordinary things, resolved to turn his gift to some better purpose. He had a sailor-brother with a large family, and he offered to take one of his children to share his humble bachelor's home. The child was a cripple—his feet turned inwards as he walked, so that he had to lift one foot over the other, and Pounds out of old shoe-soles devised an apparatus which in time brought the feet round to their proper position.

When the boy was old enough to begin to read, Pounds set about teaching him, and, thinking he would get on better if he had a companion, he went out into the street and selected a poor little homeless fellow, who, in the frost and snow, was sheltering beneath a bay window. These were the two first pupils; and, taking pleasure in his task, Pounds

gathered a few more together from the roadway, and the free school grew and grew until more than forty children were in the shop at a time.

The shop was not a large one; it was about six feet wide and six yards deep. In the centre sat the cobbler, "with his last or lap-stone on his knee and other implements by his side, going on with his work, and attending at the same time to the pursuits of the whole assemblage—some of whom were reading by his side, writing from his dictation, or showing up their sums; others seated around on forns or boxes, on the floor, or on the steps of a small staircase in the rear. Although the master seemed to know where to look for each, and to maintain a due command over all, yet so small was the room, and so deficient in the usual accommodation of a school, that the scene appeared to the observer from without to be a mere crowd of children's heads and faces."

His school increased so much that he could not take all who came, and so he had to select his pupils. In doing this he had one invariable rule: he always made room for the poorest and most hopeless Arabs he could find, and was often seen following such on to the quay and tempting them with a roasted potato to come to learn. On fine days the school would run over into the street, and the better-behaved children sat crowding round the door outside. The books were second-hand ones, begged or bought cheap, and ordinary tradesmen's handbills. The writing materials were slates and pencils only; and yet with these humble tools the pupils were thoroughly well taught to read and write, and reckon as far as practice and proportion in arithmetic.

Pounds did not stop short at book-learning. The lads were instructed in tailoring and shoe-mending, and the girls were taught how to cook plain food and make the best of everything. Nothing that could render them happy and comfortable and fitted for their after-life did their master neglect. He made their playthings for them—balls, bats, cross-bows, shuttlecocks, kites, etc.—went out with them on holidays and played with them, got them gifts of tea and cake and many a treat. He remained a poor cobbler to the end of his days, and lived long enough to see them grow up and become useful and honourable members of society.

He clothed and fed them as well as taught them. In order to take them with him to worship on Sundays, he had in one corner of his room a bag filled with all sorts of clothes for girls and boys, which he had begged and

mended, and from this mysterious bag he would on Sunday mornings bring forth decent-looking garments to replace the rags and tatters worn by his poor little pupils. On Saturdays he would go round to the baker's and buy bread for the children to eat on the Sunday, gathering it into his huge leather apron; and would often be seen, when his money had all been spent, standing still with a troubled look, searching in all his pockets for a few more coppers with which to buy another loaf.

During the last years of his life many a fine manly fellow—soldier, sailor, or mechanic—would turn in at the little old shop where the cobbler was still at work among the sea of faces, and thank him with tears in his eyes for rescuing him from starvation and giving him a chance in life. And when the good man died many were the pilgrimages made to his grave by those who, homeless and friendless, had found in him a friend.

He died while still at his work of mercy. On New Year's Day, 1839, in the little room in St. Mary Street, about thirty children were waiting for their teacher and wondering what had become of him. He came at last—a corpse borne in by strange men. He had been out to beg a few pence to buy copy-books for his school, and had fallen down senseless while pleading with a friend, and died a few minutes afterwards. The terror and grief of the children were pitiful as the form of their much-loved master was set in their midst, and when they were turned away they stood crying round the door because they were not allowed within. Day after day the younger ones came and looked about the room, and not finding their teacher went away disconsolate.

"I am a disciple of John Pounds," said Lord Shaftesbury at the opening of the Coffee Tavern at Portsmouth five years ago, and many others have been proud to confess their indebtedness to one of the most genuine, single-hearted well-doers that ever lived.

His epitaph is so brief and true that it is worth reproducing.

Erected by Friends
As a memorial of esteem and respect
for

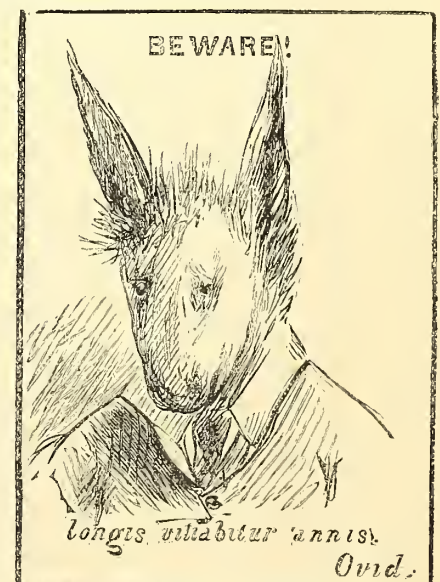
JOHN POUNDS,

Who, while earning his livelihood
By mending shoes, gratuitously educated,
And, in part, clothed and fed,
Some hundreds of poor children.

He died suddenly
On the first of January, 1839,
Aged 72 years.

Thou shalt be blessed; for they cannot recompense thee.

SKETCHES FOR LANTERN SLIDES.





THE
STAR OF THE SOUTH:
A TALE OF THE DIAMOND FIELDS.

BY JULES VERNE,

Author of "The Boy Captain," "Godfrey Morgan," "The Cryptogram," etc.

CHAPTER I.—ONE FOR THE FRENCHMAN.

"Go on; I am listening."

"I have the honour to ask you for your daughter's hand."

"Alice?"

"Yes. My request seems to surprise you. Perhaps you will forgive me if I have some difficulty in understanding why it appears so strange. I am twenty-six years old; my name is Victor Cyprien; I am a mining engineer, and left the Polytechnic as second on the list. My family is honest and respected, if it is not rich. The French consul at Capetown can answer any questions about me you are likely to ask, and my friend Pharamond Barthes, the explorer, whom you—like everybody else in Griqualand—know right well, can add his testimony. I am here on a scientific mission in the name of the Academy of Sciences and the French Government. Last year I gained the Houdart prize at the Institute for my researches on the chemistry of the volcanic rocks of Auvergne. My paper on the diamantiferous basin of the Vaal, which is nearly finished, is sure of a good reception from the scientific world. When I started on my mission I was appointed Assistant-Professor at the Paris School of

Mines, and I have already engaged my rooms on the third floor at No. 104 of the Rue Université. My appointments will, during the first year, bring me in two hundred pounds. That is hardly an El Dorado, I know, but with my private work I can nearly double it. My wants being few, I have enough to be happy on. And so, Mr. Watkins, I have the honour to ask you for your daughter's hand."

From the firm, decided tone of this little speech it was easy to see that Cyprien was accustomed to go straight to the point in what he did, and to speak his mind freely.

His looks did not belie his words. They were those of a young man habitually occupied in the abstrusest problems of science, and only giving to worldly vanities the time that was absolutely necessary. All about him showed an earnest and serious disposition, while his clear, keen glance proclaimed an untroubled conscience. He was by birth a Frenchman, but he spoke English as well as if he had lived all his life beneath the British flag.

Seated in his arm-chair, with his left

leg thrust out on to a stool, and his elbow resting on the table, Mr. Watkins listened to Cyprien's speech and puffed away at his pipe. The old man wore white trousers, a blue linen jacket, and a yellow flannel shirt, and had neither waistcoat nor cravat. His huge felt hat seemed to be screwed on to his grey head, and shaded a face that was remarkably red and bloated. The red, bloated face was cut into by a bristly beard, and lighted up by two little grey eyes that spoke of anything but patience and good-nature.

As some excuse for Mr. Watkins, it may be mentioned that he was a terrible sufferer from the gout—hence his bandaged leg; and the gout in Africa, as elsewhere, is not calculated to soften the asperities of a man's character.

The scene is at Watkins Farm, in lat. 29° s., long. 25° e., on the western border of the Orange Free State, and nearly five hundred miles from Capetown. On the older maps the surrounding district bears the title of Griqualand, but for the last dozen years it has been better known as the Diamond Fields.

The parlour in which the interview is in progress is as remarkable for the luxury of some of its furniture as for the poverty of the rest. The floor is simply the natural earth, levelled and beaten flat, and this is covered here and there with thick carpets and precious furs. The walls are destitute of paper or paint, and yet they are decked with a magnificent candelabrum, and valuable weapons of various kinds hang side by side with gorgeous coloured lithographs in resplendent frames. A velvet sofa stands next to a plain deal table, such as is generally found in kitchens. Arm-chairs direct from Europe offer their arms in vain to Mr. Watkins, who is taking his ease in a solid construction of his own design. On the whole, however, the heap of objects of value, and the numerous furs—panther-skins, leopard-skins, giraffe-skins, and tiger-cat-skins—that cover nearly every article of furniture, give the room a certain air of barbarous wealth.

The ceiling shows that the house is not built in storeys; it can only boast of a ground floor. Like all the rest in the neighbourhood, its walls are of planks and clay, and its roof of corrugated iron.

It is obviously a new house. From its windows, to the right and left of it, can be seen five or six abandoned buildings of the same order of architecture, but of different ages, in various stages of decay. These are the mansions that Mr. Watkins has successively built, inhabited, and deserted as he built up his fortune, and now serve to mark the several steps of his progress to affluence.

That farthest off is a hut of sods. Next to it comes one with walls of clay. The third has walls of clay and wood. The fourth rejoices in a little zinc.

The group of buildings is situated on a gentle rise that commands the junction of the Vaal and the Modder, the two principal tributaries of the Orange. Around as far as the eye can see there stretches the bare and dreary-looking plain. The Veld, as this plain is called, has a reddish soil, dry, barren and dusty, with here and there at considerable intervals a straggling bush or a clump of thorn shrubs.

The total absence of trees is characteristic; and as there is no coal owing to the communication with the sea being so

difficult and lengthy, the only fuel for domestic purposes is that yielded by the sheep's droppings.

Through this dismal and monotonous plain there flow the two rivers with their banks so low and sloping that it is difficult to understand why the water does not break its bounds and flood the country.

Eastwards the horizon is cut by the distant outlines of two mountains, the Platberg and the Paardeberg, at whose base the dust and smoke and the little white spots of huts and tents denote a busy human colony.

It is in this Veld that the diamond mines are situated—Dutoit's Pan, New Rush, and perhaps the richest of all, Vandergaart Kopje. These dry diggings, as mines open to the sky are called, have since 1870 yielded about £16,000,000 in diamonds and precious stones. They are all close together, and can be distinctly seen with a good glass from the windows of Watkins Farm, about four miles away.

Farm, by-the-by, is rather a misnomer. There are no signs of cultivation in the neighbourhood. Like all the so-called farmers of this part of South Africa, Mr. Watkins is rather a master shepherd, an owner of flocks and herds, than an agriculturist.

But Mr. Watkins has not yet replied to the question put to him so clearly and politely by our hero. After giving himself three minutes for reflection, he decided to remove his pipe from his lips. Then he made the following observation, which would seem to be but very distantly connected with the subject at issue.

"I think we shall have a change in the weather! My gout never worried me more than it has done since this morning."

The young engineer frowned, and turned away his head for a moment. It was only by an effort that he concealed his disappointment.

"It might do you good if you were to give up your gin, Mr. Watkins," replied he, very drily, pointing to the jug on the table.

"Give up my gin! Well, that's a good 'un!" exclaimed the farmer. "Is it the gin that does it? Oh! I know what you are driving at. You mean the medicine the Lord Mayor was recommended when he had the gout. Whose was it? Abernethy's? 'If you want to be well, live on a shilling a day and earn it.' That's all very fine. But if you have to live on a shilling a day to be well, what's the use of making a fortune? Such rubbish is unworthy of a sensible man like you. So don't say any more about it. I'll do as I please. I'll eat well, drink well, and smoke a good pipe when I am worried. I have no other pleasure in this world, and you want me to give it up, do you?"

"It is a matter of no consequence," answered Cyprien; "I only dropped a hint that I thought might be of use to you. But let it pass, Mr. Watkins, if you please, and get back to the special object of my visit."

The farmer's flow of eloquence came to a sudden pause. He relapsed into silence and puffed away at his pipe.

And now the door opened, and a young lady entered carrying a glass on a salver.

And very charming she looked in her neat print dress and large white cap, such as is always worn by the ladies of

the Veld. Aged about nineteen or twenty, with singularly clear complexion, fair silky hair, pure blue eyes, and gentle thoughtful face, she was quite a picture of health, grace, and good-nature.

"Good morning, Mr. Cyprien."

"Good morning, Miss Watkins!" answered Cyprien, rising and bowing.

"I saw you come in," said Alice, "and as I know you don't care for papa's horrible gin I have brought you some orangeade, which I hope you will find to your taste."

"It is very kind of you, I am sure."

"Of course it is! Now, what do you think my ostrich Dada gobbled up this morning? The ivory ball I darn the stockings on! Yes, my ivory ball; and it is of good size, as you know. Well, that greedy Dada swallowed it as if it had been a pill. I know he will give me serious trouble some day."

As she said this the laughing look in her eyes did not betray much alarm at the anticipated sorrow. In an instant, however, there was a change. With quick intuition she noticed the constraint that her father and Cyprien felt at her presence.

"I am an intruder, I see," she said. "I am sorry I should have interrupted you, particularly as I have no time to lose. I must study my sonata before I begin to look after the dinner. I am sure no one could complain of your talkativeness to-day, gentlemen. I leave you to your conspiracies."

She had reached the door, when she turned round and gravely said, as if the subject were of the deepest importance.

"When you wish to talk about oxygen, Mr. Cyprien, I am quite prepared for you. Three times have I read over the chemical lesson you gave me to learn, and 'the gaseous, colourless, scentless, and tasteless body' has no longer any secrets from me."

And with that Miss Watkins dropped a slight curtsey and disappeared like a meteor.

A moment later the notes of an excellent piano, heard from one of the rooms at some distance from the parlour, announced that the daughter of the house was engaged in her musical exercises.

"Well, Mr. Watkins," said Cyprien, reminded of his request by this apparition—if it had been possible for him to forget it—"will you give me an answer to the question I had the honour to ask you?"

Mr. Watkins removed his pipe from the corner of his mouth, expectorated with great majesty, abruptly raised his head, and looked at the young man with the air of a grand inquisitor.

"Was it by chance that you spoke about this to her?"

"Spoke about what? to whom?"

"What you have been talking about now; my daughter."

"For whom do you take me, Mr. Wat-



"It is very kind of you, I am sure."

kins!" replied the young engineer, warmly. "I am a Frenchman, sir, and that is to say that without your consent I should never think of speaking to your daughter about marriage."

Mr. Watkins looked somewhat mollified, and his tongue seemed to move more freely.

"So much the better, my boy. I expected no less of you," answered he, in almost a cordial tone. "And now, as I can trust you, you will give me your word of honour never to speak of it in the future."

"And why, sir?"

"Because the marriage is impossible, and the best thing you can do is to drop all thoughts of it," continued the farmer. "Mr. Cyprien, you are an honest young fellow, a perfect gentleman, an excellent chemist, a distinguished professor, and have a brilliant future; I do not doubt it at all. But you will never have my daughter, and that because I have quite different plans for her."

"But, Mr. Watkins—"

"Say no more; it is useless," interrupted the farmer. "If you were an English duke you might convince me, but you are not even an English subject, and you have just told me with perfect frankness that you have no money! Look you here; do you seriously think that, educating Alice as I have done, giving her the best masters of Victoria and Bloemfontein, I had intended to send her, as soon as she was twenty, to Paris, on the third floor at No. 104 of the Rue University, to live with a man whose language I don't even understand? Just give that a thought, and put yourself in my place. Suppose you were John Watkins, farmer and proprietor of Vander-gaart Kopje Mine, and I was Victor Cyprien, on a scientific mission to the Cape. Suppose that you here were seated

in this chair smoking your pipe; suppose that you were I and I were you. Would you for a moment think of giving me your daughter in marriage?"

"Certainly I would, Mr. Watkins," replied Cyprien, "and without the slightest hesitation if I thought you were likely to make her happy."

"Oh! ah! Well, then, you would be wrong. You would act like a man unworthy of being the owner of Vander-gaart Kopje, or rather you never would have been the owner of it! For do you think I only had to hold my hand out as it came by? Do you think I wanted neither sense nor energy when I found it out and made it my property. Well, Mr. Cyprien, the sense I showed in that affair I show and will show in every act of my life, and particularly in all that concerns my daughter. And so I say drop it. Alice will never be yours."

And at this triumphant conclusion Mr. Watkins tossed off his glass.

The young engineer was silent, and the old man continued,

"You Frenchmen are an astonishing lot! There is nothing very backward about you. You come here as if you had dropped from the moon into this out-of-the-way spot in Griqualand, call on a man who had never heard of you three months ago, and who has not set eyes on you a dozen times, and say to him, 'John Stapleton Watkins, you have a nice daughter, well educated, everywhere known as the pride of the place, and, what is anything but a drawback, the sole heiress of the richest diamond kopje in the world. I am Mr. Victor Cyprien, of Paris, an engineer with two hundred a year, and I should like you to give me your daughter, so that I can take her home and you can never hear of her for the future except by post or telegraph!' And you think that is quite

natural? I think it is consummate impudence!"

Cyprien rose, looking very pale. He picked up his hat and prepared to leave.

"Yes, consummate impudence!" continued the farmer. "No gilded pills for me. I am an Englishman of the old sort, sir. I have been poorer than you—yes, much poorer. I have tried my hand at everything. I have been a cabin-boy on a merchant ship, a buffalo hunter in Dakota, a digger in Arizona, and a shepherd in the Transvaal. I have known heat and cold and hunger and trouble. For twenty years I earned my crust by the sweat of my brow. When I married Alice's mother we hadn't enough to feed a goat on. But I worked. I never lost courage. And now I am rich and intend to profit by the fruit of my labours. I am going to keep my daughter to nurse me, to look after my gout, and to give me some music in the evening when I am tired. If she ever marries she will marry here, and she will marry some fellow who lives here, a farmer or a digger like I am, and who will not talk to me of semi-starvation in a third floor in a country that I never had the slightest desire to go near. She will marry James Hilton or some fellow of that stamp. There will be no lack of offers."

Cyprien had already reached the door.

"No animosity, my boy; I wish you no harm. I shall always be glad to see you as a tenant and a friend. We have got some people coming to dinner this evening. Will you make one?"

"No, thank you, sir," answered Cyprien, coldly. "I have my letters to write for the mail."

And he left.

"One for the Frenchman!" chuckled Mr. Watkins.

(To be continued.)

Indoor Games and Amusements.

GO-BAN.

By HERR MEYER.

THIS game is of Japanese origin, and the name means Go = five, and Ban = board. It has, however, got gradually corrupted into "Go-bang," and thus it is now generally written.

In Japan it is played on a board of more than 300 squares, but in Europe on boards of sixty-four squares (as in chess and draughts), or on larger boards. The Japanese have schools for the study and practice of the game, and divide the players into nine classes. A late account says that at present there is no player of the highest (the ninth) class living; but one of the eighth class, named Murase (in German spelling pronounced Moo-rah-sey), is editing a periodical, in which he publishes the theory of the openings, actual games, problems, poems, etc.

This game of Go (or game of five) is in China called Ki (= Kee), and was invented there about 2,000 years B.C. It is therefore older than chess. It was introduced into Japan about 1,100 years ago, and was there brought to higher perfection.

It is played by two persons. In Japan they use more than a hundred men on each side. If played on the chess-board, then generally one plays with twelve white men, the other with twelve black men. The aim of each player is to get five men in a line—

i.e., five of his men close together in a straight line, either in row, a file, or a diagonal. In Japan each player tries to form a chain with his men around the others, etc.

The play is carried on thus:—The players decide as to first move; afterwards they begin alternately. The first player, say *White*, places a man on any of the sixty-four squares, then *Black* places a man on any of the remaining sixty-three squares; thereupon *White* puts down his second man on any unoccupied square, and so on until all the twenty-four men are placed. Now the moving begins. The first player moves one of his men to any of the *next* unoccupied squares, but must not leap over a man, and the second player proceeds in the same manner. So the play continues until one or the other succeeds in getting five men in a line.

Thus the play consists in *placing* and *moving*. If a player be not sufficiently attentive he can lose in the first part of the game. The moving may extend from 2 or 3 to any number, according to capacity of the players.

The game requires a great deal of watching, for the "Go," or "Five," can be made in any of four directions—horizontally, vertically, or on the right and left diagonals.

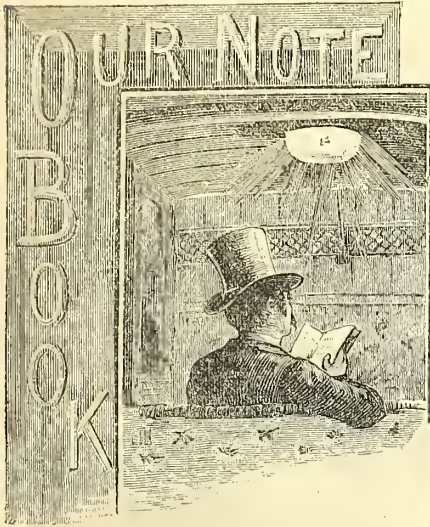
There are eight lines for each of the two straight ways, and seven lines for each of the two diagonal ways; in all thirty lines. Four positions of the "five" are possible in a row or a file, and as many in each of the longest diagonals, whilst the shortest diagonal permits of only one position, so that the number of all positions is $4 \times 8 + 4 \times 8 + 2 (4 + 3 + 3 + 2 + 2 + 1 + 1) = 96$.

Many players prefer this game to draughts. It may also be played by four persons, taking partners as in "whist," when each player receives six men. Odds can be given in this game, a superior player having eleven against twelve men.

Whenever a player has three men in an open line the opponent must stop him, for should he get four, then the adversary could block him on only one end. This blocking, however, is not necessary if the second player can first make "five."

The student will learn the method of playing from the games we shall give with explanations. The system of description is the International Chess Notation, as will be shown on the frame of the diagram to follow. The letters in brackets after the moves will refer to the explanatory notes.

(To be continued.)



OUR PARROTS.

R. Ward Tate writes to us from Baltrasna, Timaru, New Zealand, under date of July 7th:—"I beg to amend a statement made in the *BOY'S OWN PAPER*, page 335, No. 267, Vol. VI. It is there stated that *Stringops habroptilus*, the owl parrot of the colonists and the kakapo of the Maoris, has displayed a partiality for eating flesh. This is quite erroneous. The kakapo feeds exclusively on vegetable matter, chiefly on the mosses which cover the prostrate tree-trunks. It cannot fly, although it has large wings. Its flesh is good to eat, something like beef, and for this reason it is hunted down with dogs.

"The bird that does eat flesh, or rather mutton-fat, is the kea, or mountain parrot (*Nestor notabilis*). Its carnivorous propensities were first noticed on Mr. Henry Campbell's sheep station at Wanaka (Otago). It is very inquisitive as well as being destructive. Hundreds of sheep are every year killed by this bird. It settles on the back of the sheep, and with its beak cuts its way through to the kidney-fat, the only part of the animal which it eats. This it tears out, mutilating the animal to such an extent that it generally dies in consequence. I may mention that the small green parakeet (*Platycercus Novæ Zealandiæ*) has developed the same taste, though it does not go so far as killing the sheep. It only pecks off the fat when the carcass is hanging on the meat gallows."

ROWING COLOURS.

In the plate of rowing ribbons issued with the part for last September, and which took some time in preparation, the colours given as those of the Bedford Grammar School are the old colours of the Modern School. The present colours of the Bedford Modern School are black and red arranged diagonally; those of the Grammar School are dark-blue and white arranged horizontally.

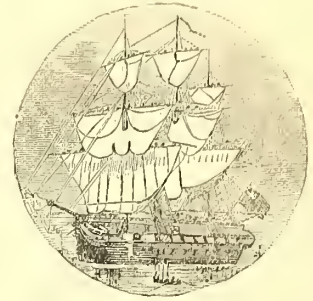
We are indebted to Mr. H. T. Andrews, of Magdalen, for the official list of the colours of the Oxford colleges during the current year. Exeter has red on a black hat; Magdalen, scarlet with lilies in front; Corpus, blue edged with red; Brasenose, yellow on a black hat; Keble, red, white, and blue; Pembroke, white hat with red ribbon and red binding; Hertford, red and white; New, violet cap with thin stripe of orange at the seams; St. Catherine's, crimson centre with white border edged with dark blue; Trinity, blue and white; St. John's, broad blue-and-white ribbon with badge; Christ Church, blue ribbon with cardinal's hat; Lincoln, broad dark-blue edged with light blue; Wor-

cester, black-and-white straw hat and broad pink ribbon; University, white hat trimmed and bound with blue ribbon; Balliol, white with blue and red arms; Queen's, carmine and brown; Wadham, light blue; Merton, white straw hat trimmed with a ribbon edged with red and a red cross; Oriel, two white stripes on a blue ground; Jesus, green and white and Prince of Wales's feathers.

This year's list of the Cambridge college colours gives:—St. Catherine's, claret with claret border; Cavendish, chocolate with blue border; Christ's, dark-blue with dark-blue-and-white border; Clare, black with yellow border; Corpus Christi, cherry with white border; Downing, black with magenta border; Emmanuel, cherry with blue border; Gonville and Caius, black with light-blue border; Jesus, white with red-and-black border; St. John's, scarlet with scarlet border; King's, white with violet border; Magdalen, indigo with lavender border; Pembroke, dark-blue with light-blue border; Peterhouse, blue with white border; Queen's, black with green border; Selwyn, crimson, with gold border; Sidney-Sussex, blue with red border; Trinity, First, dark-blue with dark-blue border; Trinity, Third, white with dark-blue border; Trinity Hall, white with black-and-white border; Non-Collegiate, dark-blue with old-gold border.

A DEAF AND DUMB BOY.

At a public examination in a deaf and dumb asylum a minister was asked to test the children in their knowledge of religious truth. He asked a little boy "Who made the world?" writing the question on a black board. The boy took up the chalk and wrote underneath, "In the beginning God created the heaven and the earth." The examiner then wrote, "Why did Jesus Christ come into the world?" To this the answer was given also in words of the Bible, the boy's face beaming with intelligent joy, "This is a faithful saying, and worthy of all acceptance, that Jesus Christ came into the world to save sinners." A third question changed the boy's expression of countenance. "Never shall I forget," says the narrator, who witnessed the scene, "never shall I forget the look of quiet resignation on the boy's countenance as he wrote, 'Even so, Father, for so it seemed good in Thy sight.'"



OUR CRICKETING GUESTS.

(See Coloured Plate.)

Philadelphians.

1. W. C. MORGAN.
2. J. A. SCOTT.
3. T. ROBINS.
4. E. W. CLARK.
5. W. BROCKIE.
6. C. A. NEWHALL.
7. D. P. STOEVER.
8. H. BROWN.
9. W. C. LOWRY.
10. J. B. THAYER.
11. R. S. NEWHALL.
12. H. MACNUTT.
13. F. E. BREWSTER.
14. S. LAW.

Australians.

15. W. L. MURDOCH.
16. G. J. BONNOR.
17. W. MIDWINTER.
18. G. ALEXANDER.
19. H. J. H. SCOTT.
20. G. GIFFEN.
21. F. R. SPOFFORTH.
22. J. MCC. BLACKHAM.
23. P. S. McDONNELL.
24. W. H. COOPER.
25. A. C. BANNERMAN.
26. G. E. PALMER.
27. H. F. BOYLE.

Off we go!

"ARE you ready?" Off we go,
Starting on our twelve months' race,
Not too fast, and not too slow,
We prefer a steady pace

For our object is to last
Fresh and merry to the end,
So that when the year is past
We may not have lost a friend.

Some have watched us run before,
Friends we made in days gone by;
They are with us now once more,
Time their friendship could not try.

Others too have gathered round,
Just to see how we can "move,"
And we trust they'll deem they've found
What will interesting prove.

We can't stop to make a speech,
Some would then proclaim us slow;
We just make a bow to each,
Greeting them, and—on we go.

SOMERVILLE GIBNEY.





HEADS OF OUR GREAT SCHOOLS.

1. DR. HORNBY, Eton.
2. DR. BUTLER, Harrow.
3. DR. HAIG BROWN, Charterhouse.
4. DR. ABBOTT, City of London.

(To be continued.)

Our New Volume.



H, happy boys! You still are young,
 You're standing on a lowly rung
 Of life's long ladder; I was there
 Some years ago, and had my share
 Of all the grief and all the joy
 Peculiar to the genus "boy."
 Were I a boy again how strange
 'Twould seem, for "all things suffer change."
 'Tis hard to fancy how, at school,
 When rainy days became the rule,
 We kept things going, for you see,
 The world then lacked its B. O. P.

All that is changed, and as we start
 Our volume with the present part,
 We're glad to know we add a joy
 To life for many a British boy.
 Lads! imitate the B. O. P.
 Resolve to do your best to be
 A joy to others, to avoid
 What can't be harmlessly enjoyed.
 To please, instruct, and guide our aim;
 Determine yours shall be the same.

ONE OF MOTHER CAREY'S CHICKENS



BY THE REV. A. N. MALAN, M.A., F.G.S.,

Author of "Cacus and Hercules," "A Duncie's Disasters," "The White Rat," etc.

CHAPTER I.

"CLUCK ! cluck ! cluck ! cluck ! CLUCK ! cluck ! cluck ! cluck !"

From the noise the old Cochin China hen made you might have thought she was the very identical fowl which laid the golden eggs in the fable. She strutted this way and that, proclaiming her proud delight to the world in general, and to Mother Carey in particular, who was looking forward to a brood of chickens. It had been well if she had looked backward also—for she was at that moment engaged in boiling the potatoes for dinner, and, turning quickly round to peer out of window and see which of her hens was raising the triumphant hymn, she forgot all about the bucket of water, and she must needs kick it over in her excitement, thereby producing a small flood in the apartment. This disaster roused the old dame's wrath, and she gave an extra kick to the inoffensive bucket. The result was excruciating anguish to her great toe with the corn, and genuine cause for the old lady to howl in good earnest.

Mother Carey lived in a cottage adjoining the cricket-field at Highfield House. Her husband had formerly been head-gardener to Dr. Porchester; and now, having passed the time of life in which his energies were equal to the laborious requirements of that situation, he had relapsed into the less dignified position of knife-and-boot boy. As he

naïvely expressed it, "I've a-been in service this fifty years, and I be only a b-u-o-y after all!"

Mother Carey herself washed the socks of the young gentlemen and turned an honest penny by the produce of her poultry-yard. She had fair reason to be proud of her chickens. It was not that they were of choice extraction or imposing in numbers, for when all hands were piped at feeding time there was but an ill-assorted gathering of some twenty birds, of all shapes and sizes, from the gawky Cochin down to the dainty bantam. But by careful diet and treatment she prevailed upon them to give her a very respectable supply of eggs, and her spring chickens invariably fetched a good price, and were famous far and wide for the flavour and delicacy of their flesh.

Now, any one acquainted with the dame might have been struck by her countenance on this occasion. The habitual serenity of her face was replaced by a frown of unqualified dissatisfaction as she looked out of window and espied the old Cochin China hen craning her neck with vigorous efforts of intonation. It may have been the smarting corn on the dame's big toe; it may have been the mess of water on the floor of the kitchen. But probably the cause of her displeasure was otherwise.

That particular hen had lately developed a tendency towards deception

highly to be censured in a bird of reputable character. For three days in succession that fowl had trumpeted forth the tidings of an egg laid. Yet, although Mother Carey searched high and low, she could not discover where the canny old fowl had concealed the treasure. She had looked in the copse, in the stable, in the wood-yard, in the barn, in the out-house, in the peat-stack, in the straw-stack, and the haystack. In out-of-the-way nooks and corners had Mother Carey hunted, and all to no purpose.

There were eggs unlawfully hidden, and the henwife was justly indignant at the insolent deceit. She could not spend her day dodging the Cochin with incessant surveillance. Time was not long enough. She wished to trust her fowls—to teach them honesty and appeal to their sense of honour by treating them with confidence, and was this to be the return? Mother Carey gave a sniff and wiped her eye with a corner of her apron. It was only yesterday, when that gossiping old crony Mary Woostford called and recommended a strict watch to be set upon the movements of the culprit, that Mother C. had said, "I'd scorn the haction, marm!"

The proprietress of the poultry-yard was visibly irate against this member of her galaxy. The flash of her eye, the impetuosity of her step, betokened hot displeasure. She'd let the rascally old

fowl know, and suiting the action to the resolve, she was out in the yard in an instant armed with a mop. There was a shriek and a scurry of legs and wings, and the Cochon made rapid tracks for cover.

Mother Carey returned to her potatoes. It behoves me to throw light upon the conduct of this hen.

Know, then, that there was a boy at Highfield whom his sponsors had christened Thomas, while his surname was Bertram. But his schoolfellows, with an eye to the exuberant development of his cheeks, called him "the Dumpling."

In the practice of nicknames we may notice a usage of classic antiquity which has defied the vicissitudes of time, and will doubtless continue to future ages. Had not Cicero's grandfather a wart on the top of his nose which got him the cognomen of "Chick-pea"? Was not Ovid conspicuous above his fellows for the size of that member, wherefore they called him "Nosey"? And the progenitor of the Scipios was doubtless tall and straight like a walking-stick. Among the celebrated "Graffiti" of Pompeii are numerous caricatures and inscriptions savouring strongly of this custom, so that if the Latin prose book is to be believed a boy named Caius was called "the Cow," and another with large eyes and a round face was known as "the Owl."

Where were we?

Talking of the Dumpling, sir.

To be sure. Well, he was a full-fleshed lad of jocular countenance and a turn for idleness, vanity, and mischief, which often got him into trouble, as it always will to the end of the chapter. But perhaps we must not be too hard upon his all-too-numerous followers, for if it was not for such boys there would be no need of schools to train and correct and drill them into shape. And if there were no schools there would be no holidays, and whatever should we do then?

Without further preamble, let me state at once that this Dumpling was simply and solely to blame for the hen's conduct which so grievously displeased Mother Carey. Yes; so prone was that youth to folly, that, not content with setting a bad example to himself and his companions, as though that were not enough, he must needs lead astray into unseemly conduct a Cochon China hen! And this is how it was.

The Christmas holidays were just over, and the Dumpling had found them hang heavy on his hands. Not being of literary tastes, he did not care for reading stories even of thrilling adventures and hairbreadth escapes. Not having a taste for the fine arts, he would not practise his scales on the pianoforte nor amuse himself with a pencil or a paint-brush. Not caring for bodily exertion, he would not even join the merry company of sliders and skaters, though the ice was in superb condition for a whole fortnight. The obesity of his carcass prevented him joining with any pleasure in games, and if he was forced by the home authorities to go to a juvenile party he would sulk in a corner and throw a chill over the festal mirth which even the warmth of his red cheeks failed to dispel.

Seeing then that these things were so, the Dumpling had cast about in those holidays for some diversion which might be congenial to his degenerate tastes, and he had been successful. His brain,

so inactive as a rule, had shown extraordinary quickness in devising a remedy for his *ennui*. He had taken a course of lessons in cookery. I use the word *taken* advisedly, for it cannot strictly be said that the lessons were *given*.

The cook was far from pleased at the frequent visits he paid to her domains. He would come rolling into the kitchen at any time, no matter how busy she might be. He was not unpleasant or rude in his manners. Nay, he took care to make himself agreeable to the servants. He had brought the cook a new cap with pink ribbons as a Christmas present; and he had a way with the servants which was quite irresistible. He would smile till his beady eyes twinkled and the dumplings on his cheeks became more pronounced than ever, and the housemaid, at all events, thought him a fine, handsome young fellow.

Thus he would often gain admission to the kitchen, and there inspect the culinary operations. He was specially interested in the manufacture of puddings and pies. Pie-crust he loved. You might see him with his pocket-knife scraping off the remnants of crisp brown flakes that fringed the margin of an emptied pie-dish. He would convey the morsels to his mouth and devour them with a voracity commendable in a prize pig, but not so in a boy never likely to be a prize boy in any competitive examination.

The Dumpling went back to Highfield after those Christmas holidays with fine stories of his achievements in the art of cookery. He boasted to have made mince-pies and cheese-cakes and toffee and all kinds of sweets. He would gather round him a bevy of kindred spirits and dilate upon the glories of his skill with wondrous eloquence, while his hearers licked their lips and smacked their chops, and feasted in imagination upon all the luxuries of Christmas.

"And then, you fellows, my mater one day wanted a trifle, and cook was busy, and I said I'd make it. So I got the eggs, and sugar, and sponge-cakes, and jam, and cream, and brandy, and sherry, and made such a splendid dish. The white of the eggs I flipped up into foam half a yard deep, and the strawberry jam at the bottom! Oh, it was crackey, I can tell you!"

"I should like some now, I know jolly well," said a very skinny, pale-faced boy, who looked as if he had never eaten a dinner of roast beef in his life. "I wish you'd make us one of your grand dishes, Dumpling, just to show what you can do."

"I'd make a trifle fast enough if I could only get the things; but how can a fellow get anything good at this beastly place?"

The Dumpling moved off without waiting for any one to answer his question. Most of the boys were playing football in the playground, for it was between 2 and 4 p.m. The gravel was in prime condition—hard and dry. The sun was bright, the air crisp and frosty, and of course the boys as a rule were making the most of it, playing up with that grand energy which is so delightful to watch. If boys would only throw the same determined vigour into their lessons we should have them all at the top of the class; the bottom would be No Man's Land—Ultima Thule, the other side of the Streams of Ocean.

Most of the boys were hard at play.

Only a very few were loafing about, and those were the troublesome, idle, mischievous spirits who break windows, cut the desks, pick mortar out of the walls, break rules on the sly, skulk in twos and threes behind odd corners, and generally give more unnecessary trouble than all the rest. But we cannot stop to consider these uninteresting specimens just now, for the game waxes warm round one of the goals, and who can resist the inclination to look on?

Notice that splendid young fellow with a face which one day will be a type of manly beauty, with a chest that even now makes one feel strong to look at it. That's our friend Harry Stephenson, captain of the games, the most popular boy in the school. See how he defends the goal, with his entire soul thrown into the work, rallying his side around, cheering, directing, charging, shoving his mightiest. Hell ward off defeat if any one can. But, see, that little bit of a chap has hold of the ball, with limbs as lissom as a cat's. His legs seem to flash as he runs and dodges. Why, that's—no, it can't be—yes, it is—that's his small brother, Dickey!

Who could believe it? In spite of his diminutive size he runs like a hare. What a colour he has! Why, he's the picture of health, as different as possible from what he was the last time we saw him on the platform at Ventnor Station. He's getting the ball through! He'll get a goal! Ah, no. Harry has caught him. With one arm encircled round the small body he lifts him clean off his legs, but as tenderly as is compatible with stern duty. Harry's other hand secures the ball in a trice, and depositing Dick with a laugh he punts the ball half-way down the playground, and looks round, now that the danger is past, to see that Dick is none the worse. God bless you, boys!

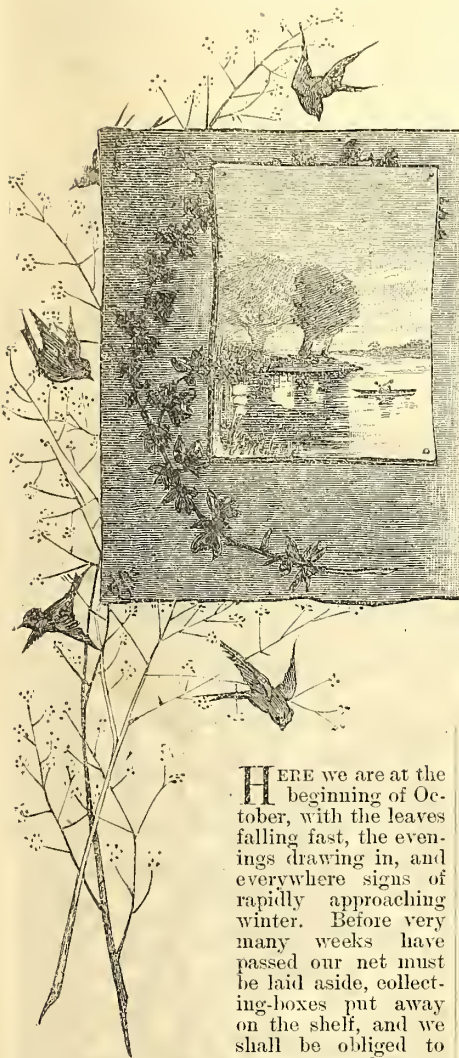
Hi! stop one moment, Master Puffy-cheeked Dumpling; don't go skulking out of the playground just yet. You want to get round that corner and steal off to the field to potter and loaf after some silly mischief. But do stay one moment and watch the game; for if you did, surely you could not choose but join in yourself, and perhaps dissolve some grains of superfluous fat, and raise in your unwieldy frame a glow of vigorous life which might prevent your yawning and lolling over the desk all through that Latin prose lesson which comes on at four o'clock. No, he has disappeared round the corner, and I have not the heart to follow him just now.

(To be continued.)



AN EVENING AT THE IVY

By THEODORE WOOD.



HERE we are at the beginning of October, with the leaves falling fast, the evenings drawing in, and everywhere signs of rapidly approaching winter. Before very many weeks have passed our net must be laid aside, collecting-boxes put away on the shelf, and we shall be obliged to content ourselves, as

far as outdoor work is concerned, with digging for pupæ whenever our entomological ardour happens to burn.

Happily, however, things have not yet arrived at such a pass. We can still sally forth by day, provided that the wind and sun are in our favour, with a tolerable certainty of filling our boxes with more or less valuable captures. If we are favoured by fortune's smiles, perhaps, even a "Camberwell Beauty" or a "Queen of Spain" may reward us for our labours, while several stars of lesser magnitude may reasonably be expected to fall victims to our prowess.

Then, after darkness has set in, the treacle-pot is still far from unattractive, the gas-lamps will have many inquisitive visitors, and such flowers as those of the petunia may possibly lure a *Convolvulus Hawk-moth* or so on to destruction. But far more productive than any of these is the ivy, the blossoms of which are just now in their fullest luxuriance.

It is really a wonderful sight to see the myriads of insects which congregate upon the ivy-bloom both by day and by night. Sometimes the blossoms will be almost wholly concealed from view by hosts of Red Admirals, Peacocks, Tortoiseshells, Painted Ladies, and other sweet-loving butterflies, all of them so engrossed in sucking up the luscious juices that they may be taken between the finger and thumb before they are even aware of the presence of their captor. All the bees in the neighbourhood are sure to attend for business purposes, while wasps, hornets, flies, earwigs, bugs, beetles, and spiders

occupy every attainable corner. No sooner does one visitor leave than his place is taken by a new-comer, not a break taking place in the constant succession of guests until either the weather changes, or the flowers, drained of the last drop of their sweet juices, wither away and lose their alluring properties.

By night the scene is much the same, excepting that the butterflies, who have a wholesome dread of late hours, retire from their posts shortly before sunset, and so make room for their more dissipated relatives, the night-flying moths. And these are by no means slow to take advantage of their opportunities, for, almost before the first shades of dusk have begun to appear, pioneers arrive from all directions, and before very long the stream of visitors is so incessant that the entomologist is irresistibly reminded of the oysters who so imprudently accepted the treacherous invitation of the Walrus and the Carpenter:

"And thick and fast they came at last,
And more, and more, and more."

The ivy is once more literally besieged with insects. Generosity and the allied virtues are at a discount, for "first come, first served" is the order of the day, and a late-comer can often find place only by ousting a smaller and weaker relative from the blossom upon the juices of which he was revelling. This, as a rule, he is by no means loth to do, and very amusing squabbles are sometimes the result.

LET us now suppose that our readers are bearing us company upon one of our ivy-searching expeditions. The evening is dull and misty, but warm withal; the moon is long past the full, and does not rise until very late, and there is a very slight south-westerly breeze, so that we have every reason to congratulate ourselves upon our selection of a favourable evening. In half an hour more it will be time to set to work, and as we have a mile and a half to walk before arriving at the happy hunting-grounds we deem it fully time to make a start.

Nets we carry, of course, for moths are cunning, and often allow themselves to drop to the ground as soon as the light from the lantern falls upon them. It is generally the good moths, somehow, which resort to such tactics, for the members of the common herd seem to be perfectly aware of their own exceeding worthlessness, and remain quietly in their places, regarding the collector with an impudent stare which is very amusing.

Equally, of course, our pockets bulge with pill-boxes of various sizes, some nested for the sake of compactness, and others ready for immediate use. Then there is the lantern, duly filled and trimmed, a box of matches, and a few odds and ends, such as pins, etc., in case of emergencies. Thus equipped, we commence our journey, and arrive at our destination just as dusk is beginning to set in.

And a splendid collecting-ground it is. A high wooden fence, nearly half a mile in length, which borders a well-timbered park, is covered from end to end with the most luxuriant of ivy, which just now is literally laden with blossom. Thick masses of the flowers hang within easy reach, and, the height of the fence notwithstanding, there are but few situations in which a moth could rest without being easily visible. Altogether, we could hardly find a more promising locality, and we begin our preparations for the evening's campaign with hope rising high in our breasts. For does not the rare Dotted Chestnut (*Dasygampa rubiginosa*) occasionally visit the blossom of the ivy? And have not fortunate collectors met with even the Red-headed Chestnut (*Gleba erythrocephala*) itself, enjoying a convivial evening with its commoner kin?

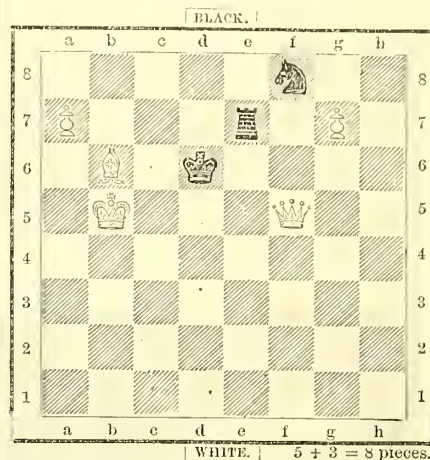
(To be continued.)

CHESS.

(Continued from vol. VI., page 822.)

Problem No. 85.

By Mrs. SOPHIE SCHETT.



White to play, and mate in three (3) moves.

BLINDFOLD GAME.

This game was lately played between Messrs. Palmer and Meyer, who were walking in a park, without chess-board or men, and they merely told one another the moves. The game lasted one hour and ten minutes.

WHITE.

1. P-K 4.
2. Kt-Q B 3.
3. P-B 4.
4. Kt-B 3.
5. B-Kt 5.
6. P-Q 3.
7. B x Kt.
8. P-B 5.
9. Castles.
10. B-Kt 5.
11. B x Kt.
12. Kt-K 2.
13. R-B 2.
14. Kt-Q 2.
15. Kt-K B sq.
16. P-K Kt 3.
17. Q-K sq.
18. K-R sq.
19. Q Kt x P.
20. P-B 4.
21. P-R 4.
22. Kt-K 2.
23. K Kt-Kt 3.
24. Kt x B.
25. Kt-K 2.
26. Kt x P.
27. Q-K B sq.
28. Q x P.
29. R-Kt 2.
30. Kt x Q.
31. Any move.

BLACK.

1. P-K 4.
2. Kt-K B 3.
3. P-Q 3.
4. Kt-B 3.
5. Q-K 2.
6. B-Q 2.
7. B x B.
8. P-K Kt 3.
9. P x P.
10. P-B 5.
11. Q x B.
12. R-K Kt sq.
13. P-K R 4.
14. P-R 5.
15. P-R 6.
16. Q-R 5.
17. B-R 3.
18. P x P.
19. B-B 5.
20. Castles.
21. R-Kt 3.
22. Q R-Kt sq.
23. R-Kt 4.
24. P x Kt.
25. Q-Kt 5.
26. P-B 4.
27. P x P.
28. P-K 6 (d. ch.)
29. Q x Q.
30. R x R.
31. R mates.

To Chess Correspondents.

J. S. and S. S.—Other correspondents agree with you that No. 81 is "one of the prettiest problems ever composed."

"OMEGA."—Your solution to No. 77 is correct, and it can also be solved by 1, B x P.

H. M. (Bath.)—Solution and remarks agreeable.

J. S.—Your suggestion that Petroff in our last game might have played 11,—Kt—B 4 (ch.). 12, K—B 4, B—K 6 (ch.). 13, K × Kt, Q × Kt (ch.), etc., would have led to inferior play.

OUR OPEN COLUMN.

A BRAVE LAD.

A "Spectator" writes from North London under date of July 19th: "At a fire that occurred last night at a mantle shop in the Upper Street, Islington, Frederick L. Graves, aged 15, who has been a subscriber to the B. O. P. from the first number, shortly after the outbreak scaled the wall at the back of the premises,

and, climbing in at a window, succeeded in rescuing two children who were in bed, the room being filled with dense smoke, and, bringing them down in safety, handed them over the wall to a neighbour. He then returned to an upper room, where he found another child, but a fireman arriving he gave him into his care." We are constantly receiving testimony of this kind, and need hardly say, therefore, how proud we are of "our boys."

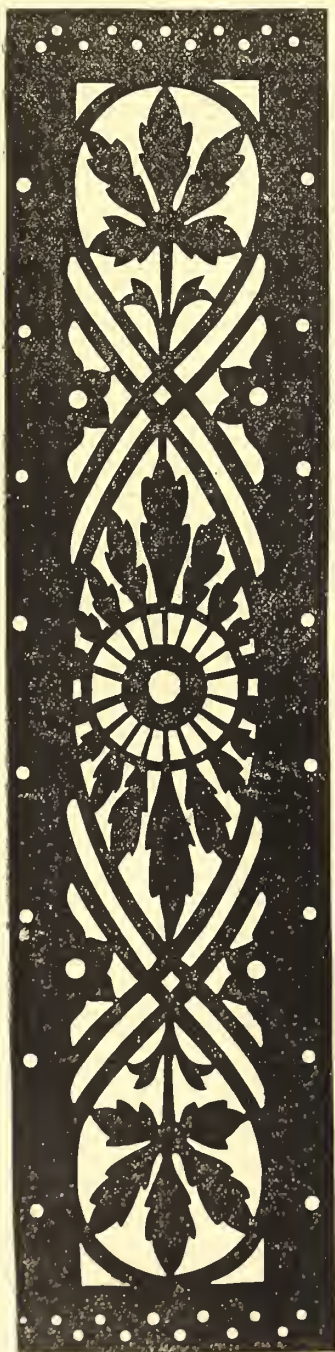
WORDS OF CHEER.

The Rev. JOHN DEACON, head master of St. George's Grammar School, and Assistant-Curate at St. George's Cathedral, Cape Town, South Africa, writes: "I need hardly bear testimony to the delight which your most valuable and instructive paper affords in this far-off land. My schoolboys—and I do not hesitate to say myself also—read it with unabated interest. The healthy tone of its writings, combined as they are with such manly and Christian lessons, are most useful,

especially to South African boys, who, owing perhaps to the climate and other circumstances, lack to a certain extent that energy, application, and, I am sorry to say, 'schoolboy honour' which perhaps distinguishes the true English schoolboy. Speaking for myself, I am very thankful for the help which I feel convinced the BOY'S OWN PAPER renders us in the moral and intellectual training of our boys."

Our Portrait Gallery.

WE commence this week a series of carefully-executed portraits of the Heads of our great Public Schools. Dr. Hornby, of Eton, is engraved from a photograph by Messrs. Hills and Saunders, Eton; Dr. Butler, of Harrow, from a photograph by Mr. Samuel A. Walker, 230, Regent Street, London, W.; Dr. Haig Brown, of the Charterhouse, and Dr. Abbott, of the City of London School, from photographs by Messrs. Elliott and Fry, 55, Baker Street, London, W.



Back of Vol.



Side of Vol.

Original Fretwork Design for "Boy's Own Annual" Cover.



FISHING FOR THE MONTH.

OCTOBER.

THERE are probably more eels caught in October in the United Kingdom than during any other month in the year. On the Itchen, even, it is not at all uncommon for the water-keepers to get a hundred-weight of these fish in the course of one dark and damp night in each net, and I myself have frequently done this on the same and other rivers. It is not, however, in reference to netting that I wish to speak now. This is also the best month for catching eels with a hook and line on dark nights—for being a nocturnal fish that is your best time.

Fortunately, as the weather is frequently wet and rough, it is not at all necessary for you to be up, but you can retire, after setting your baits, till daylight. I now refer specially to eel-fishing, and these are the materials. Procure a ball of long cord of the thickness of a crow-quill, some twine or water-cord—the latter is better, because stronger—and a hundred eyed eel-hooks. Soak both the cords in warm water, this removes the dressing which every new rope or cord invariably contains; then while wet stretch both out between nails as tightly as you can draw without actually straining them. When dry they are ready for use. The long cord can be cut up in lengths of about fifteen yards, and is to form the main line; the water-cord or twine is cut in two-foot lengths. Now tie your hooks with a secure knot to the two-foot lengths of string, and let a knot be also tied at the other end of each length, so that it may not become unravelled. Stretch

your fifteen-yard lengths between posts, so that they hang clear of everything, and proceed to tie on your hook-lines at intervals of three feet, so that they drop at right angles to the main line. Worms well scoured will procure you most sport, for I do not think an eel ever passes by a lob-worm without taking it. To set the line a boat is best. A couple of bricks are necessary, one at each end, to sink it; and if you are not used to eel-fishing and how to mark your spot of laying, a piece of twine must be attached to one brick, and a cork tied on, that it may mark the place where the line is as by a buoy. This is a good plan and saves trouble, though it occupies time, and is therefore not so useful to the professional fisherman, whose aim is to get as many lines in as possible before dark. One can by use pretty correctly remember the spot where the line lies; and the grapnel, which is made like a large triplet hook, soon brings up the line.

By-the-by, shall I tell you how to mark in your memory the exact position of a hole or swim in a large lake, or in fact on a river, though the method is not so much required because of the nearer approach of the banks? This is how. Suppose you are in the middle or thereabouts of the lake; your boat is stationary, or you must make it so. Now turn your face in one direction, and mentally notice two objects which stand on the bank one behind the other—say a tree and a church tower; let the tree be close to the bank and the church some distance; the only absolute necessity is

that the tree is in a line with the church—i.e., partly hides it in a straight line. Therefore, a line drawn from yourself would pass through the middle of the tree and church. Do you understand? If not, read this carefully over again. Now you do; very well! Having made the mental note I spoke of, turn exactly half round either right or left, and do precisely the same with two other objects on your left or right, which is most convenient. Now you have mastered a little bit of mathematics, of which you were, perhaps, hardly aware. A line drawn through these two sets of objects converges to a point exactly where you stand, and of course exactly over where you wish to come again. The application of it is very easy. You start next day, or a month hence, and get two of your objects in a line with you; all you have to do now is to advance or recede till the other two objects are also in a line with you, on your right or left, whichever it may be. This is how sea fishermen know their fishing grounds so accurately when fishing off shore.

To return to eel-fishing. There is another method or two for these fish, which is very effective, though the laying of lines is undoubtedly the best plan. First there is "snigging." The usual process with worms is cruel, I therefore give another way of doing the same kind of fishing without pain to anything except the eel. Get the fresh entrails of any small animal, such as chicken, rabbit, etc., and whilst perfectly fresh

thread them on a line. The result will not be so good, but you will have the satisfaction of knowing that your bait is not alive and suffering. The same bait may be adapted to "bobbing" for eels. This "bobbing" consists of a needle tied or whipped on a string, so that it hangs crosswise; the end of this string is attached to your button, allowing a couple of yards or so to hang free between it and the needle. On the top of a stonish stick tie a piece of stiff wire, curved into nearly a half-circle, and your apparatus is complete. Take your bait and thrust the needle into it, then place it on the top of the wire. Hold the line in your left hand and the rod in your right, and carefully search under large stones, in the cracks of camp-shedding, and other likely places for the eels. Presently you will feel a sharp snapping against the wire; slowly then withdraw it, leaving the bait with the eel; of course he has the needle as well, and after he has gorged it all you have to do is to pull steadily; the needle catches and gets crosswise in his throat, and out comes the eel on *terra firma*. Give ten minutes to gorge it. It is best to have a supply of needles ready, for the difficulty is to extract this curious fish-hook when it is once fixed without cutting off the fish's head. Of course "bobbing" is a daylight pastime, whilst snigging can only be done at night; the finer the day for the former, and the stiller it is, the better for sport. The eel may be instantly killed by sepa-

rating the back-bone just behind the head at the back.

There is yet another night dodge, which I confess I have never seen practised myself, though I have heard all particulars from those who have got good sport with it. It is called "clodding" for eels. A piece of red worsted is made up loosely like a ball, with a small piece of lead inside. A dark, still night is chosen, and sometimes it is a stream, and sometimes still water which is the chosen *locatie*. If it is a stream, the "clodder" sits himself down by the edge, and, with the "clod" attached to a stout stick or rod, prepares for action. About three yards above him stands another, who holds a dark lantern, at which he lights little screws of paraffined paper, and pitches them on the stream. As the paper floats down the clodder follows it with his clod, or red worsted ball, and the eel coming up to see, bites viciously at this, and is instantly drawn out and thrown behind him to his boy, who, with a dark lantern also, and using a rough cloth in his hands, picks up the eel and throws it into a box. As many as twenty of a night are often secured like this, I have been told. Many a time have I speared eels with a barbed spear (shaped like a garden fork, with serrated tines close together) in the night, using a light, for fish are very fond of coming up to a light. "Burning the water" is the term used by salmon-poachers.

draughts, especially if your birds are of the more delicate sorts. Some birds, such as pointers, require special training before they can stand any chance as show birds. They are penned, but not all day long. They are inclined to mope if kept constantly confined. The object is to get them to play up and look their boldest and prettiest. They should be quite familiar with you, and glad to see you without being too excited. The exact plan can hardly be described on paper, but will come to you naturally if you are really fond of the birds and take an interest in them. In preparing for shows, so far as the birds themselves are concerned, remember that while the judges expect to see them looking clean and healthy-like, that any tampering beforehand with plumage, or beak, or wattles, will be detected very soon at the show, and dealt with summarily. In fact, the bird will be disqualified, to the disgrace of his owner. There are special boxes and baskets made for the purpose of sending pigeons to shows in. If you be a novice, make a point of seeing some of the best of these, and get one or two made like them. Shows are advertised months beforehand in such papers as the "Exchange and Mart." If wishing to exhibit at them, all you have to do is to get the secretary's address and write for a schedule; you must then adhere most carefully to the rules in every single particular.

It is too soon to begin buying in birds for subsequent mating. Those who already have lofts must go on thinning, weeding out the worst birds for market or pot, and retaining only the requisite number of promising ones. Repairs must likewise be attended to against the coming bad weather. It is a good time now for such as wish to go in for the pigeon fancy to get up a loft. While keeping your loft perfectly clean, and using disinfectants judiciously, do not forget that you can taint the air even by these same disinfectants. In cleaning up beware of slop and damp.

THE AVIARY.—We hope that by means of the hints given by us from month to month last season, some of our boys will have succeeded in getting birds worthy of the show cages, and that they will take honours. Even a commended card is something to show that a boy has not been altogether idle. Get ready for shows then if you are one of the lucky boys; if not, wait and hope for better times another season. If your birds are not completely moulted, continue the cayenne feeding; after this it may be discontinued, though we question if this should be done quite all in a day without danger to the birds' constitution. We might go farther, and say it is a question whether cayenne feeding is natural at all, and not always injurious.

Keep your bird-cages very sweet and clean, and let there be abundance of fresh air in the rooms where the birds live, only take care in damp foggy days; open the windows then only in the middle of the day. Do not keep useless birds; and a canary that is not well up in points and properties is useless unless you desire a mere song-bird.

THE RABBITRY.—This is the month for making repairs in the places that contain live stock of all kinds, whether they live in house or hutch. Rabbits, we consider, are as a rule very much neglected in the matter of housing and internal comforts generally. Boys especially expect them to live continually in confinement, their prisons too small almost to turn in, their bedding a vile mass of corruption, and even food itself not given with regularity. If we remember what rabbits are in the wild state, free to rove over fields and through woods, in shade or in sunshine, and sleep at night in roomy, dry, but well-ventilated burrows, can we wonder much if, when all these conditions are quite reversed, they should fail to thrive, and suffer from skin and bowel complaints, and ailments of many other kinds fatal to parents; or, if they live, destructive to the constitutions of the offspring? We say to every boy who means to take rabbits as his hobby, consider what we have just said; let him arrange matters so that his little favourites may have fresh air, light and shade, as they feel inclined, exercise, and good food, and bedding sufficient to keep them warm and dry.

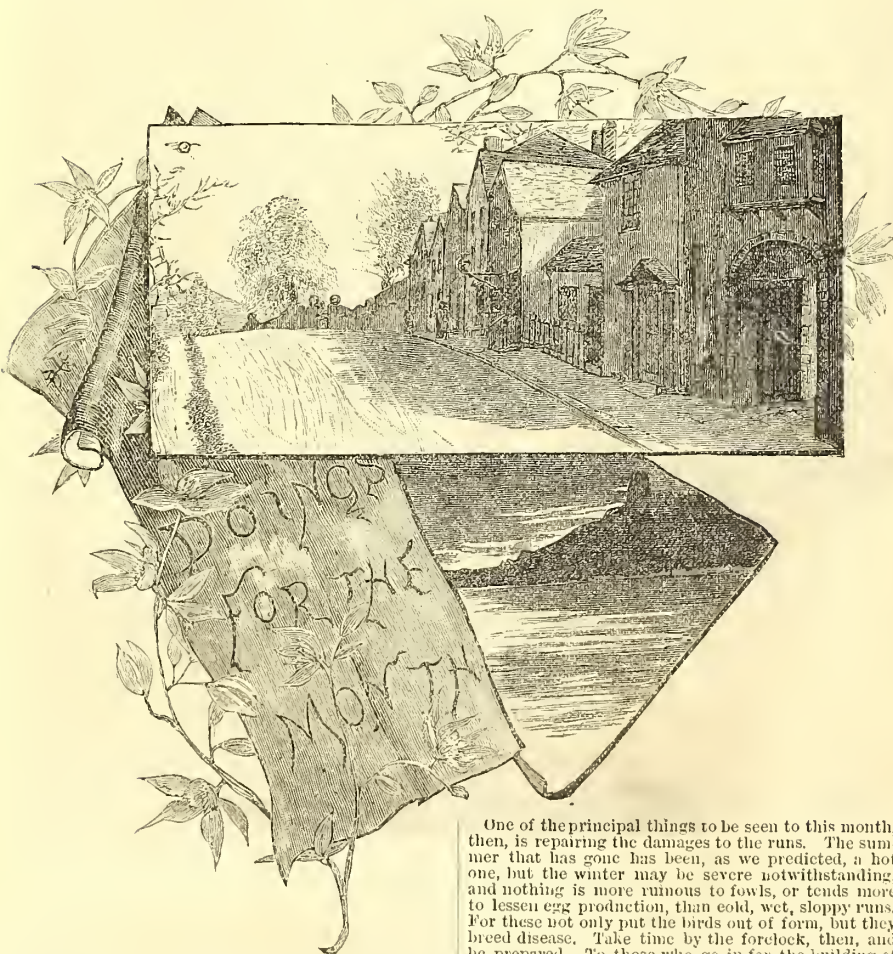
Make a collection of clean bedding on dry days now; it helps to keep down expense in winter, and makes the bunnies pay their way.

THE KENNEL.—"I'm going to keep a dog," we heard a boy say, "and any little box will do to make him a kennel." This was a great mistake. But we believe a large cask can be got cheap at the grocers. No matter how big it is, so long as there is room to put it in. Get the end closed up, and make the hole at the side. Or, better still, have the end in the form of a door to open and close, but to fit so well that in bad weather it shall be free from draught. This will make a good kennel. But it must be regularly scrubbed and well-bedded. Have the chain as long as possible, and with two swivels on it. But do not get a dog of any kind unless you can afford the time to take him out twice a day for a good romp. He will benefit greatly by such exercise, and so will you.

THE KITCHEN GARDEN.—Get your root crops out of the ground and stored, then planting greens of different sorts for winter use, and keeping down weeds, will occupy the time of the amateur gardener well this month. But there will also be bits of ground to be rough dug, so that the frost may kill weed seeds.

THE FLOWER GARDEN.—Study your ground, and determine all alterations of beds and borders, and sow flower seeds where you want them. The only advantage of planting out seedlings in early spring is that you may previously have had the ground occupied. Where space is no object sow the hardier seeds at once. They will stand the winter well. It is time now to get in your spring flowers.

THE WINDOW GARDEN.—Autumn flowers and evergreens, with a few hardy ferns, etc., must now be depended on to keep up a gay appearance.



One of the principal things to be seen to this month, then, is repairing the damages to the runs. The summer that has gone has been, as we predicted, a hot one, but the winter may be severe notwithstanding, and nothing is more ruinous to fowls, or tends more to lessen egg production, than cold, wet, sloppy runs. For these not only put the birds out of form, but they breed disease. Take time by the forelock, then, and be prepared. To those who go in for the building of new poultry-houses we say, have them thoroughly comfortable and dry, even if they cost a little more at first. Beware also of overcrowding; do not be in too much of a hurry to stock. A few fowls of really good strain and stock, whether intended for egg or for meat produce, will be better than a barnful of ordinary kinds. Prepare now for fowl-showing, but never think of entering a bird unless it be at least worthy of notice. Therefore make yourself well up in the points and properties you take up.

Look out for cases of illness, and take them in hand at once. Warmth and a more generous diet will often be more beneficial to a sick fowl than even medicine. The old henwife's plan of taking it into the kitchen, rolling it in flannel before the fire, and feeding it on nourishing tit-bits, has many merits.

Diarrhoea is one of the diseases of the season. Treatment: Find out the cause, and remove it; it generally arises from cold, damp, and from sour unwholesome food. Give bone dust and chalk mixed with the meals, or boiled rice, oatmeal, and chalk, or three drops of chlorodyne three times a day made into a bolus with arrowroot or flour and a drop or two of milk.

THE PIGEON LOFT.—If everything has been in full swing during the summer, you ought to have a few birds worth showing. Take care of them, feed well, keep the whole loft clean, and beware of wet and

THE POULTRY RUN.—There are many advantages accruing to boys and others who make the keeping and breeding of the smaller kind of live stock a hobby, and some of these are pretty solid ones too. Not the least of them we think is the learning of business habits, that are sure to come in handy in after life. For without regularity, tact, and careful thought being brought to bear upon the steady—and study it must be—not much good can be done. So the mind is instructed and trained, while at the same time it is kept amused. A little money is required to start the young farmers at first; this will readily be advanced, we should imagine, by fathers or relatives. It cannot be otherwise than a pleasure to them to be told of ways by which "our boys" can earn their own pocket-money.

The breeding of all animals is pleasurable employment, and hardly any home is too small to keep one or other of the kinds in. For where fowls or rabbits may not have room, pigeons might thrive, but failing these there is the lesser fry—canaries—and all may be made a source of profit to a greater or less extent. Every month brings its duties; it will be our duty, therefore, as heretofore, to supply our readers in brief but handy paragraphs, with just that information which will tend to keep them up to the mark in the knowledge that is desirable.

OUR PRIZE COMPETITIONS.

(SEVENTH SERIES.)

So great has been the interest shown by our readers in these competitions, that we intend not only to continue, but to increase their scope and attractions.

We start our competitions for the present volume with the following subjects, and shall announce many others, specially chosen to suit all classes of readers, as the volume progresses. We should like to repeat here what we have more than once stated, that where there may seem to be any doubt as to our exact meaning in the announcement of subjects, competitors will be quite safe in following their own judgment in the matter. Our one object in these competitions being to help our readers, they may be quite sure we should not allow any deserving worker to suffer because of any accidental misunderstanding. The general rules must, however, be strictly adhered to.

I.—Writing Competition.

As really good legible handwriting is becoming increasingly appreciated, especially in commercial life, our first competition shall test the skill of our readers in this direction. We offer, therefore, *Three Prizes*, of *One Guinea each*, for the best copy, in plain handwriting, of the 1st Psalm, from the Authorised Version. Competitors will be divided into three classes—the Junior Division, embracing all ages up to 14; the Middle Division, all ages from 14 to 18; and the Senior, all ages from 18 to 24. *The last date for sending in is December 31st, 1884.*

II.—Illuminating Competition.

We offer *Three Prizes*, of *Two Guineas, One Guinea and a Half, and One Guinea* respectively, for the best Illumination (in oils or water colours) of a Bible promise, which may be selected, at the option of the competitors, from either the Old or the New Testament. Competitors will be divided into three classes, according to age, and one Prize will be awarded in each class. First class, from 18 to 24; second class, from 14 to 18; third class, all ages up to 14. The highest Prize will go to the class showing the greatest merit. Competitors are not prohibited from using purchased designs, but the colouring must be wholly their own, and other things being equal, the preference will given to original work throughout. The size, material, etc., are left to the choice of competitors.

The last date for sending in is January 31st, 1885.

III.—Fretwork and Carving Competition.

So great was the interest shown in our previous Fretwork Competition, that we have determined to give further Prizes in connection with the subject. We now, therefore, offer *Three Prizes*, of *Two Guineas, One Guinea and a Half, and One Guinea* respectively, for the best blotting-case or blotting pad cover. The size, wood, tools, etc., are left entirely to competitors' own choice, but the natural difficulties presented by some woods over others will of course be taken into due consideration by the adjudicators. The cover may be entirely fretwork, or carving—whether sunk or in relief—may be combined with it. The divisions as to age will be precisely the same as in the above Illuminating Competition; but the last day for sending in will be February 28th.

IV.—Music Competition.

Our last Music Competition was very successful, and we see no reason why this one should not be even more so. We offer, then, *Prizes of Two Guineas and One Guinea* respectively, for the best musical setting, with organ or pianoforte accompaniment, of any of the verses appearing in our last volume (Vol. VI.). There will be two classes—Junior, all ages up to 18; Senior, from 18 to 24. *The last day for sending in is March 31st.*

It will thus be seen that we have selected subjects likely to afford all classes a fair chance—boys at home, and at schools; boys with leisure and opportunities, and boys who are already engaged in the sterner duties of life; boys to whom a preliminary outlay may be no great object, and boys who rarely have a shilling to spare. All the subjects are equally open to every reader within the ages specified; so that any one boy may, if so disposed, try in all the competitions. We must invite, however, the most careful attention to the following

RULES AND CONDITIONS.

1. No article of any kind sent in will be returned, whether accompanied by stamps or not—a rule rendered necessary by the immense number of readers who join in these competitions. To return in all cases would be next to impossible, and it is not fair to make exceptions. The best of the articles will, as hitherto, be sent to hospitals, training-ships, ragged schools, and other useful public institutions, as a gift from the readers of the *Boy's Own Paper*. The result of each competition will be duly published in our columns, and no questions on the subject can be answered through the post.

2. The prize-winners may either receive the money itself, or the money value in such approved articles or books as they may select. In all cases money will be sent, unless we are otherwise instructed.

3. In addition to the prizes, handsome "Certificates of Merit," suitable for framing, signed by the Editor, will be awarded to all the more meritorious competitors who may fail to secure prizes.

4. The work must in every case be the competitor's own—that is, must be the product of his own hands and brain; though of course any aids received merely in the way of suggestion, whether from books or friends, are admissible.

5. All MSS. must have at the top of first page the full name, address, and age of sender, clearly and legibly written, thus:—

Name.....

Address

Age.....

In the case of the Illuminations, Carvings, etc., these same particulars should be written on a separate piece of paper, which should also bear the certificate (see Rule 7), and must be stitched (not pinned) on the front top left-hand corner, or gummed to the back.

6. All the subjects are equally open to every competitor, but where any competitor may try for prizes in two or more of the subjects, he should be careful to see that in every case the particulars are repeated according to these instructions with each separate article.

7. All contributions should be certified by parent, clergyman, minister, teacher, employer, or other responsible person, as genuine unaided work. By this certificate we simply mean a letter, or even an endorsement under the competitor's name, thus:—"I hereby certify that the accompanying article is the unaided work of —." Signed —.

8. All letters or packets must be plainly marked outside "Prize Competition, Class —," and must be addressed to "The Editor, *BOY'S OWN PAPER*, 56, Paternoster Row, London," carriage being, of course, prepaid.

Correspondence.



UBBS.—1. The oval or diamond-shaped boards hanging on the signal-boxes are used to show that the telegraph is in working order. 2. The capital B is the initial of recipe—take.

ANIMAL LOVER.—Clip off the matting, and keep the rabbit well and cleanly bedded. What you describe seems to be the Siberian rabbit, which has the dark points of the Him a lay an and the long coat of the Angora.

TOBY.—1. Take the licence out in January early. Do not feed on the table scraps. 2. Steep the horns in a solution of carbolic acid and

water, and next anoint inside with arsenical paste. Fill up with plaster-of-Paris if weight is no objection.

S. E. has a hedgehog, and does not know how to feed or tend it. He ought, for hoggie's sake, to have found out this before getting such a pet. The staple diet in captivity is stale bread and plenty of nice fresh milk. A good large plateful should be given every evening at dusk. Also garden worms, snails, etc. Put an armful of nice dry hay in a corner; it will roll itself up and sleep in this. In very cold weather the hedgehog sleeps day and night. In summer give it its liberty, like a cat.

G. E. M.—You say you have read our Poultry article with great interest, but yet you ask us how to feed and treat a fowl! We were most explicit on these points. Kindly refer back.

LOCO.—In 1882 the number of passengers killed from causes beyond their own control from accidents to trains was in the proportion of about one to forty millions, so that there is nothing wonderful in the low rate of railway accident insurance premiums.

E. C. (Kingston).—Touch the swelling on the blackbird's back about every second day with tincture of iodine. You ought to have known how to feed and treat it before getting it. Perhaps a little lead ointment will do as well. Feed on ground oats made into a paste with fresh milk. Give snails, grubs, worms, shredded meat, and fruit, especially grocers' currants.

A LOVER AND KEEPER OF DUCKS.—You will find an article on ducks in No. 186, in the September part for 1882.

W. BAZLEY.—Dumb-bells should never be heavy; about two pounds per bell is quite sufficient for any age or constitution.

EMIGRANT.—1. You should learn from a teacher. 2. With gloves is the best way. 3. You will find how to waterproof lines and casts in Mr. Keene's Fishing Tackle articles. 4. A professional rabbit-trapper with a knowledge of farming would be almost sure of employment in the Australian colonies. 5. Any book will be sent you by a London publisher if you will prepay its cost and the postage.

D. M. S.—To make the ornaments confectioners put on cakes, soak gum-tragacanth in water until soft, and then mix it with powdered starch and refined sugar until it is thick enough. Mould the figure into shape, colour it, and varnish with white varnish. Never eat ornaments off confectionery; even the icing is not always wholesome.

F. ADDISON.—It need not necessarily be in Africa. Orange, the original one, in the Vaucluse, France, has 10,801 people; the American Orange, in New York State, is larger—it has 13,207. There is an Orange in Maryland, with 2,124 inhabitants; and another, a very thriving one, in New South Wales, with 2,701. There are seven Orange counties in the United States.

PEN.—1. See "Fishing Tackle, and how to make it," in the third volume. 2. To clean bottles throw in a few shippings of iron wire and shake them round with the warm soap lye or whatever you use. Soap lye is made by boiling together a handful of quicklime and a handful of common washing soda.

S. D.—Indelible paper is a queer expression, but we understand it to mean a paper so prepared that anything written on it can never be removed. One variety of such paper is made by dissolving some best Scotch glue with five per cent. its quantity of potassium cyanate and antimony sulphide, and passing the paper through it; another solution, a dilute one, of magnesium or copper sulphate is prepared, and in this the sheet is immersed. This paper cannot be tampered with without detection, for acids would colour the writing, and alkalies colour the surface, and erasing would show the white ground beneath the chemical coating.

C. L.—Counting from Ceres to Barbara, there are two hundred and thirty-four asteroids now known. You will find their names in Whitaker's Almanack. If you want to select a boat's name you could not do better than refer to a list of the asteroids.

SKIN-DRESSING.—From C. E. we have received two pieces of hareskin that would be a credit to any skindresser. The process he adopts is simply to make a thin paste by mixing a table-spoonful of plaster-of-Paris and water, and then thinly painting the skin over with it.

J. A.—In cases of failing eyesight consult an oculist at once. Delay is always dangerous in such matters.

K. NEEDWOOD.—There are about eighty miles of underground railway in Great Britain. There are tunnels beneath the Wear and Tyne; and at Whitehaven and Botallack the mines run under the sea. At Whitehaven the tunnel extends for a mile beneath the salt water.

VIXEN.—You can teach yourself water-colour painting up to a certain point, but it is almost imperative that you should have a few finishing lessons if you wish to excel.



JACK.—1. The spanker or driver. 2. A ship's courses are the sails that hang from the lowest yards. The foresail is the forecourse, the mainsail is the maincourse, and the cro-jack is the mizencourse. 3. "On a taut bowline" is as close to the wind as you can sail the ship; "on an easy bowline" is when she is a little freer, say almost on a reach. The bowlines are used to flatten and steady the weather-edge of the sails when the ship is beating to windward.

MEDICUS.—1. You cannot get stains out of ivory without dulling the polish. Sulphurous acid, chloride of lime, or chlorine will bleach it. 2. Not that we know of, but there is no reason why it should not be, if the weights were only lifted long enough.

J. HENRY.—1. The young swans on the Thames are hatched about May. You will often see the hen swan sailing about with the cygnets on her back while she is giving them their earliest swimming lessons. The brood is about half a dozen. The swan companies are the Dyers and Vintners, both of whose halls are on the bank of the river. The Royal birds have two diamonds, the Dyers' birds have one nick on the right side, the Vintners' birds have two nicks on each side—hence "the swan with two nicks," or "the swan with two necks." The number of birds allowed on

the Thames is 610, of which the Crown has 500, the Dyers 65, and the Vintners 45. 2. Quite right then, but not now. The Thames Conservancy handed the Northfleet Light over to Trinity House in 1870.

T. WARNER.—Because it was in the summer time. In the winter the plumage of the ptarmigan is white; in the summer it is dark grey, with the breast and feather-tips rather light-coloured.

M. C. Y.—1. It is two hundred and twelve miles from Beachy Head to the Lizard, thirty from Beachy Head to Dungeness, thirteen from Dungeness to Folkestone. The Shambles light is off Portland, the Caskets off the Channel Islands, the Start is off Dartmouth, the Eddystone off Plymouth, the Longships off the Land's End. 2. Boys in the Navy can be bought off for £8 in their first year, but afterwards the cost of discharge is £12. If you anticipate being bought off don't go. The country will feel no richer for the gain of the £8, or poorer for your loss, and your parents could make better use of the money elsewhere. 3. Ripples are waves caused by a slight breeze, sometimes called a catspaw. White horses are small waves broken into white foam. Breakers and rollers are large broken waves in shallow water, or on reefs, rocks, and banks. Swell is the heaving sea. Ground-swell is the long heaving motion connected with a distant storm. Chopping or cross seas are short irregular waves caused by changing winds. Spindrift is the spray blown from the surface of the water by a heavy gale.

D. S.—1. Benzine dissolves all the oils, resins, gum-resins, varnishes, and fats. 2. The cheapest refrigerator is a hole in the ground. Wrap the ice up carefully in an old piece of flannel, and bury it as deep as you can. It will sometimes last underground for weeks in the hottest weather.

S. INDEN.—Blue and yellow make green, blue and red make purple, red and yellow make orange, and so on. You should experiment with the combinations before you begin to paint. We leave you to discover for yourself "the most polite way to offer a young lady your arm, and also how to gain consent to carry her umbrella." As a rule, gentlemen who borrow umbrellas are regarded with suspicion by the ladies.



SENOL.—See our articles on netting in the second volume. You cast on a row of stitches the height you want and work longways from them, keeping the number the same throughout.

SION JAMES.—1. The best way to kill the cat is to take it to the nearest druggist and get him to give it a dose of prussic acid. 2. Perhaps Rickman or Freeman, but it depends on what architectural period you wish to go in for.

SAILOR.—1. Your only way to get poisonous drugs for experimental purposes is to apply to your doctor. 2. The prices of the Boyton suits are not quoted. A swimming belt will cost you from five shillings to ten. You can hardly call floating about in an india-rubber suit swimming.

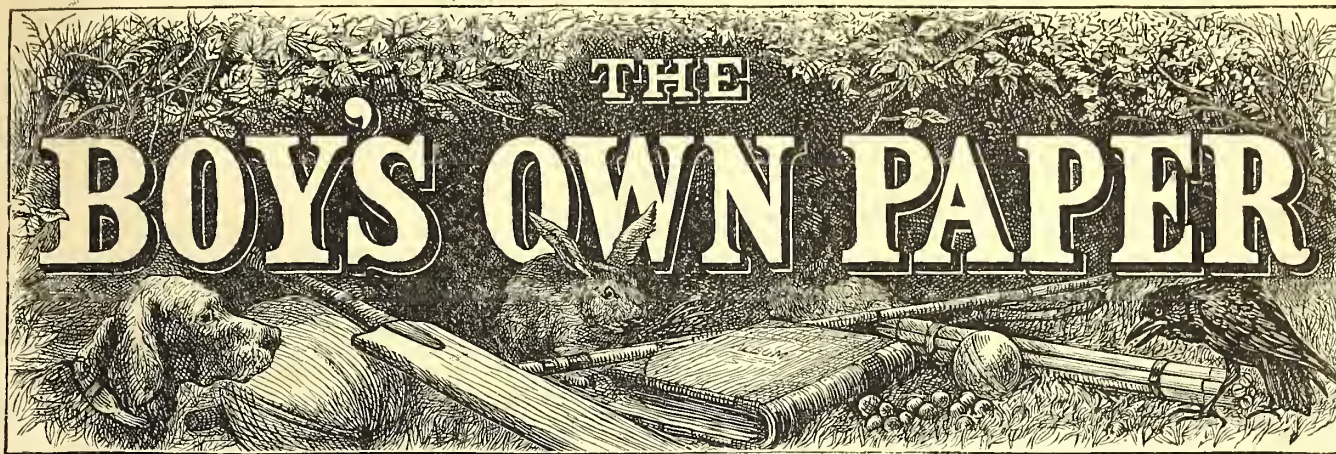
CERES.—The highest jump is P. Davlu's, 6ft. 2½in., at Carrick-on-Suir, on July 5, 1880; the longest jump with a run is Laue's, 23ft. 1½in., in 1871.

WOODEN LEG.—The boot does not polish because it is too greasy. Give it a coat of heel-ball, or wet it thoroughly when on your foot, and dose it with castor-oil, tallow, or dubbin. As the wet dries out the oil soaks in.

A. M.—You can always get the indexes sent to your address by forwarding us three-halfpence.

HUSSAR and SABRE.—The answer to all such questions is "Go and see." A stroll over Westminster Bridge would soon reveal to you a real, live recruiting-sergeant, and an application to the nearest post-office will provide you with full directions as to what to do. If you are ashamed of going for a soldier, don't go.





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SCHOOL AND THE WORLD : A STORY OF SCHOOL AND CITY LIFE.

By PAUL BLAKE,

Author of "The Two Chums," "The New Boy," etc.

CHAPTER II.

"BREAK off!" It came at last. What a change!
Strict silence became loudest uproar, mili-



tary discipline was
turned into the wildest
confusion.

"Now, you young fat-chaps, I'll teach you to push against me when we are dressing!" shouts little Dexter to a chum of his with whom he is generally at daggers drawn.

"I didn't!" retorts Featherstone; "and if you touch me I'll be the death of you!"

They clutch at each other wildly and roll over into the dust, where they might have had their fill of struggling without interruption if Dickson, a big upper-school boy, had not stumbled over them.

"You little louts!" he began, but they did not wait to hear the rest, they scudded away to the field, where cricket was already begun.

"They clutch at each other wildly."

"Bother the kids!" muttered Dickson, wiping off the dust from his trousers, "they're as bad as pups for getting in your way."

"Spoiled your new pants, Dicky?" inquired Lang, as he passed towards the field.

Dickson disdained to reply, though perhaps he would have done so if he had had a good retort ready.

The old sergeant disappeared through the gates; it would be three days before his burly form would again be seen. Drilling in August is—well, there is no word strong enough to meet the case without using one which might look like an exaggeration.

Dickson continued brushing his clothes till he felt he was himself again, and then walked slowly to a distant tree, beneath which he found Melhuish reclining lazily, apparently busy with a book.

"Hullo, Melhuish! What are you reading? Got something worth lending a fellow?"

"Yes, not bad; one of Marryat's."

"Marryat's?" cried a hearty voice, and the round face of Soady beamed on the pair. "Which is it?"

Melhuish handed him the volume, as the easiest way of answering.

"Why, it's the second volume!" exclaimed Soady; "and you told me yesterday you hadn't read the first!"

"Eh?—what?" asked Melhuish, quickly. "Why, so it is! I hadn't noticed it. I only just took it out of my pocket as you fellows came up."

"Why, you were reading it hard, I thought," persisted Soady.

"Oh, shut up!" exclaimed Melhuish, angrily.

"You needn't get waxy over it!" went on Soady, with good-natured obstinacy.

"Can't you leave a fellow alone?" asked Melhuish. "You are always poking your nose where you aren't wanted."

"I don't want to poke it where such a sweet-tempered chap as you are is trying to snap it off," retorted Soady, not very powerfully. "Good-bye, and I hope your temper will improve."

With which parting shot (a very good one in the shooter's opinion) Soady marched off to find a more congenial companion.

"What a sap he is!" remarked Dickson.

"An awful fool!" assented Melhuish. "I wish he wouldn't be always bothering round me."

"No, I don't know what we are coming to nowadays with fellows like him in the first form. Why, I remember when he came, and a precious little ass he was. I used to lick him once a week regularly."

"You don't do it now," said Melhuish, with a touch of sarcasm. Soady had grown big and strong; it would have taken Dickson more than he could manage to stand up and face his former victim. Fortunately for him, Soady was of a forgiving disposition, and had contented himself with giving his former tyrant a good licking, once for all.

"Heard anything of Fanshawe lately?" asked Dickson, by way of changing the subject.

"Not much; I saw him a good deal last holidays. He is in London, going in for law."

"In London? Lucky beggar! I wish I were."

"So do I," assented Melhuish. "He seems to be having a high time of it."

When I get out of this hole I'm going up to London too, and 'twon't be my fault if I don't enjoy myself."

"This is a hole, and no mistake," said Dickson. "If a fellow dresses decently all the cads of the place make such a row about it one would think they had never seen a new coat in their lives. 'Tisn't like a regular public school; this half-and-half sort of place is worse than an ordinary private one. By-the-bye, I thought Fanshawe was going to Oxford?"

"So he was, but his father said he couldn't afford it. He's been losing money lately, I heard."

"Well, I don't know that 'tisn't better being in London than at college, where you've got those old proctors always down on you, and have to go to chapel, and all that sort of thing. That wouldn't suit Fanshawe much, would it?"

"Not by long chalks."

"I say," continued Dickson, "he went it down here his last half, didn't he? I heard that it was a narrow squeak that he wasn't expelled, only the Doctor didn't like to send away a big fellow who was going to leave at the end of the term. Did you hear anything about it?"

"Not much," said Melhuish.

"What did you hear?"

"Oh, never mind!"

"You might tell a fellow," persisted Dickson.

"Well, I heard he got hard up, and wrote home for a subscription to a testimonial to the Doctor that he said the school was getting up, and somehow it got round to the Doctor's ears. Old Fanshawe wrote to congratulate him, or something, and then there was a bust up sort of shine, you can guess. If it hadn't been for old Fanshawe promising to take him away at the end of the term, I don't know what wouldn't have happened."

"He was no end of a fellow!" said Dickson, admiringly; "that was a clever trick; now I should never have thought of it."

"Oh, he's clever enough for anything," said Melhuish. "I wish I had half his brains; he's passed the matriculation in honours since he left."

"Are you going up?"

Before Melhuish could answer, a small boy came up to them.

"Please, Melhuish and Dickson, you're wanted in the small class-room."

"Who wants us?"

"The Doctor wants all the first form."

"What's that for?" asked Dickson, wonderingly.

Melhuish swallowed a lump in his throat before he answered.

"I'm sure I don't know," he said.

CHAPTER III.

THERE is a black sheep in every flock; so in every school there is one boy pre-eminent in badness. Fortunately for St. Mary's College, the worst specimen had been known for some years had now left. Fanshawe was a boy in whom bad instincts had been nourished by his training, and who, from constant lack of moral fibre, had gradually deteriorated till by the time he was seventeen and left school for the world he was about as likely a specimen of a young scoundrel as could well be found.

But, although St. Mary's was now free

from his presence, his influence was not yet dead. The seeds of evil which he had sown in not a few hearts were gradually bearing fruit. Amongst those who suffered most from him were Melhuish and Lang.

Melhuish offered a good field for evil influences, for he was inclined towards evil, and even without Fanshawe's direction would probably have turned out anything but well. Lang was of a better disposition; a good-natured boy, who under the leadership of a stronger mind than his own might have turned to either right or wrong. Unfortunately for him, the stronger mind with which circumstances brought him into contact was that of his tempter Fanshawe.

Hitherto, however, both boys had managed to sustain their characters fairly well, at least in the eyes of the authorities. Melhuish was known as a rather dangerous companion, but Lang was still favourably looked on, and with more reason. Since Fanshawe left he had to a certain degree "rehabilitated" himself, and, except that he was more prone to mischief than most boys of his age and standing, was regarded as an average specimen of the first form.

The two boys were to some extent chums still in virtue of their former intimacy with Fanshawe. But Lang was gradually drawing himself free from Melhuish, though he was beginning to recognise how hard it is to keep straight when an old companion in wrong-doing is constantly at hand.

Most of the boys with whom we have made acquaintance belonged to the first form now summoned by the Doctor. At St. Mary's the usual order of forms was not followed, but the first was the first, the second the second, and so on. Monitors were non-existent, but the first form were supposed to exercise an informal authority over the lower school, meaning the last three forms.

As the boys entered the house there was some discussion as to the meaning of the summons.

"I think it's a half-holiday," said Soady, decisively.

"Why don't you think it's a whole one?" suggested Dickson. "Would be just as easy for you and twice as pleasant."

"What do you think, old boy?" asked Lang of Ferguson.

"Can't think, it's too hot. Shall know in two minutes."

The Doctor was waiting for them in the small class-room.

"I'm sorry to call you all in such a beautiful afternoon," he began, "but it's about a matter which should be known at once. Simpson has reported to Mr. Smith, who of course informed me, that some money which he kept in his box in the Rummage-room has mysteriously disappeared. Now I am quite ready to believe it possible that Simpson has been spending more than he remembers, and that he is making a mistake, but he is so positive about it that I am obliged to mention it. He says the money was there when he went into school to-day, and when drill was over it was gone. Garland, you had to see that every one was at drill to-day: were there any absent?"

"No, sir," replied Garland, a tall, rather thin boy with deeply-cut features: a pleasant face, but not one that could be called handsome. He looked like a

boy that could be trusted implicitly, and so he was.

"Then you see," continued the Doctor, with a smile, "that one of you is implicated, it seems. No one could have gone to the Rummage-room during school or drill, and you were the only boys who were not drilling. By the way, none of you keep any boxes there, do you?"

There was a general murmur of "No, sir."

"I thought not. None of you went there during drill, I suppose, by any chance?"

A pause, but there was no reply. Soady's eyes were fixed on Lang, who was unconscious of them. He was undergoing a mental struggle. Before he had come to a decision the Doctor went on,

"You may as well keep your eyes open, and I think I shall advise Simpson and others of the lower school that they had better let me take care of any money they have beyond half-a-crown. You may let this matter be kept quiet, I have told Simpson not to mention it. But if anything comes to your ears you must let me know at once. No absurd feeling about honour must be allowed to stand in the way of the character of the school, unless you are prepared to admit that on the principle of 'Honour among thieves'

you should be silent when you ought to speak out."

Various were the comments amongst the boys when the open air was reached again.

"What a storm in a teacup!" said Ferguson. "Doesn't the Doctor like to hear himself spout!"

"Little beast Simpson is," remarked Dickson, "to go and sneak about losing eighteenpence. I expect it's all nonsense, it's dropped out of his pocket."

"Yes, that's it," said Melhuish, the first time he had spoken since the summons came. He stopped suddenly now as if he had said too much.

"I hope it is," added Garland. "One hears of fellows stealing at schools, but we've never had a theft here yet, and I hope we shan't."

Lang did not join in the talk; he soon left the others and went to a quiet corner where he could lie undisturbed, a book in his hand to account for his wish to be alone.

He had undergone a temptation and had failed to conquer it. He felt he had dropped back an incalculable distance in his moral career. He had a mingled feeling of guilt and innocence. Of course he never took the money; he shrank from the thought; but then he had

visited the Rummage-room during drill, the time when the money was stolen. When the Doctor asked if any of them had been there, the chief thought in his mind was that if it were known he had been there he would be thought the thief!

"I'm glad I didn't say anything," he said to himself. "Nobody knows I went in there, and if I had said I had it would have been impossible to prove that I didn't go to Simpson's box. Now no harm is done; I didn't take the money, so I'm not bound to get myself into a hole by bringing suspicion on myself."

However, he was not able to argue himself into satisfaction with himself, though he tried hard.

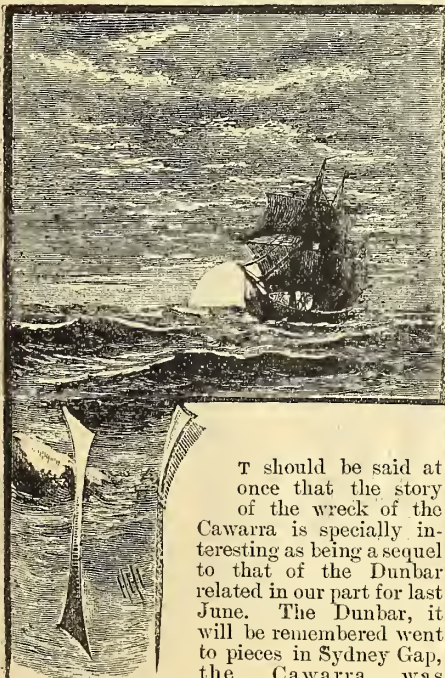
"Oh, confound it all!" he exclaimed at last; "I shouldn't have thought two straws about it last half, why on earth should I make such a fuss about it now? There isn't a fellow in the place who wouldn't have done just as I did, except perhaps Garland."

So he settled down for a quiet read till tea-time, which was rapidly approaching, feeling that his day had not been quite so satisfactory as he had anticipated.

(To be continued.)

GREAT SHIPWRECKS OF THE WORLD.

THE WRECK OF THE CAWARRA.



It should be said at once that the story of the wreck of the Cawarra is specially interesting as being a sequel to that of the Dunbar related in our part for last June. The Dunbar, it will be remembered went to pieces in Sydney Gap, the Cawarra was wrecked on Newcastle

oyster-bed; and, by a singular fate, Johnson, the sole survivor of the famous clipper, proved to be the rescuer of the sole survivor of the ill-fated steamer.

The Cawarra belonged to the Australian Steam Navigation Company, and left Sydney on Wednesday, 11th of July, 1896, for Brisbane and Rockhampton. Her passengers and crew numbered sixty all told, and she was somewhat heavily laden, her deck cargo being considerable.

During the night there came on one of the severest gales ever known on the eastern coast of Australia. The storm grew so during the morning that the fury of the fearful sea has

never yet been exceeded even in the Pacific. The waves came roaring into Broken Bay and Port Hunter like huge hills of foam, and lashed the shore with such force that the beach seemed to thrill beneath their blows.

About one o'clock in the afternoon the look-out at Newcastle Lighthouse signalled a steamer making for the port from the northward. The flag was run up warning her to stand off and keep out to sea, as it was too rough for any vessel to attempt to enter the harbour. Apparently the vessel did not see the flag, for on she came, and in about an hour had steamed close in. At last her crew became aware of the difficulty of their task, and attempted to return to the open. As the vessel wore to gain an offing she was recognised as the Cawarra.

Her effort was made too late. She could gain no headway against the sea, and slowly and surely was swept on to the bar. The engines were going full speed, but as the surge welled over her bulwarks her bow was seen to sink deeper and deeper, and cripple her power of steering. For a few minutes the doomed ship drifted helplessly, and at three o'clock she struck.

The people were seen to be clustering on her poop and in her rigging. But the suspense was short. So violent were the waves that beat on her that in a quarter of an hour funnel and mainmast had gone over the side. Five minutes afterwards the foremast went, and before a quarter to four the Cawarra had vanished, and all that was left of her were the wreckage and the bodies that every now and then rolled over on the crests of the billows.

Owing to the violence of the gale, the pilots and most of the regular lifeboatmen were aboard the vessels in the harbour, fully employed in keeping them out of danger, and the lifeboat was not launched until the steamer had gone aground. When the boat felt the sea she was soon rendered useless, for a heavy wave came aboard and eight out of her fifteen oars were snapped off short.

Other boats, however, put out to the rescue, the first and foremost being the lighthouse

dingy. Johnson, the Dunbar hero, was then employed in the lighthouse, and he and Hannell, the keeper's son, rowed off in the tiny craft to lend a helping hand. The terrific sea prevented the boats advancing very far, but the little dingy got out the farthest, and was soon among the wreckage.

At half-past five a man was being swept past her, when Johnson, leaning over the side, seized him and lifted him on board. The rescue was only just in time. The dingy returned; the apparently drowned man, then insensible, was put to bed, and in a few hours recovered. He was one of the crew—a Bristol man, F. V. Hedges, who had come to Sydney the year the Dunbar went down. He was the sole survivor of the Cawarra.

It seems that Captain Chatfield, finding the gale increasing, resolved to seek shelter in Port Stephens or Newcastle, and as he came westward chose the latter. The fore-staysail was hoisted, and blown to ribbons; the fore-trysail alone would stand. As the Cawarra neared Nobby's the danger of the entrance was perceived; and although a daringly-handled little schooner came flying in at the time—snapping her mainboom as she did so, and to it probably owing her safety—the steamer was brought head to wind.

The jib was set, but had hardly got home before it was "sent into slitherens," and the vessel broached to. The waves dashed on board and the water poured down the forehold, but as the fires were not put out, and the engines could be kept going, no signal of distress was hoisted. The crew retained their coolness to the last, and the captain gave no sign that he thought his ship in danger.

The Cawarra drifted out of the breakers into smooth water, and the deck cargo was thrown overboard. As she headed outwards she shipped another sea, and this quenched the fires. As soon as this happened some men got into the lifeboat and were immediately ordered out by the captain to make room for the women. Shortly afterwards orders were given to clear her away, but the

tackle jammed, and Hedges alone of those who remained in the boat scrambled on board again.

The ship was now aground. Hedges and others took to the rigging, the boats being all rendered useless. The masts were shaken out, and then she broke up. Hedges grasped a piece of the wreck, and changing from piece to piece until he found a plank big enough to support him in safety, was only washed off it to be picked up by Johnson.

From the shore the progress of the little dingy, as she rose and fell on the boiling sea, had been keenly watched. The news that a steamer was on the bar had brought the

raised, "She has gone!" And then, when she rose again to view, heaving up among the spray on the crest of some curving billow, the shouts that greeted her were mixed with the warning growls of the older hands, "She'll go next time, whether or no!" The crew, however, would not return empty-handed, and the perilous course was continued until the man was found.

The Cawarra broke up entirely, and the wind setting dead on the shore, nearly all that came from her was swept into the bay. The shipping in the port were dragging their anchors, and to the danger of grounding or fouling there was now added the by no

upon her before the masts fell, the hull canted over—and she was gone!

The day was spent in the mournful task of seeking for the bodies and bearing them away for identification. One of the first found was that of the captain, to be followed soon afterwards by that of the second engineer, who had been standing by the side of Hedges in the main rigging when the sea rushed over them.

Of the regular crew of the Cawarra one besides Hedges did not go down with her. This was the steward, Newlands, who, having injured his foot, was left behind at Sydney, a fact worth recording from the singular coin-



"She has gone!"

people down in crowds to the beach; and when the lifeboat returned disabled the excitement rose to fever pitch. All hope of saving the figures huddling on the ship seemed cut off. The "ancient mariners of the port" shook their heads, and at the same time chuckled with admiration as the tiny boat went out beyond the red buoy and advanced towards the breakers.

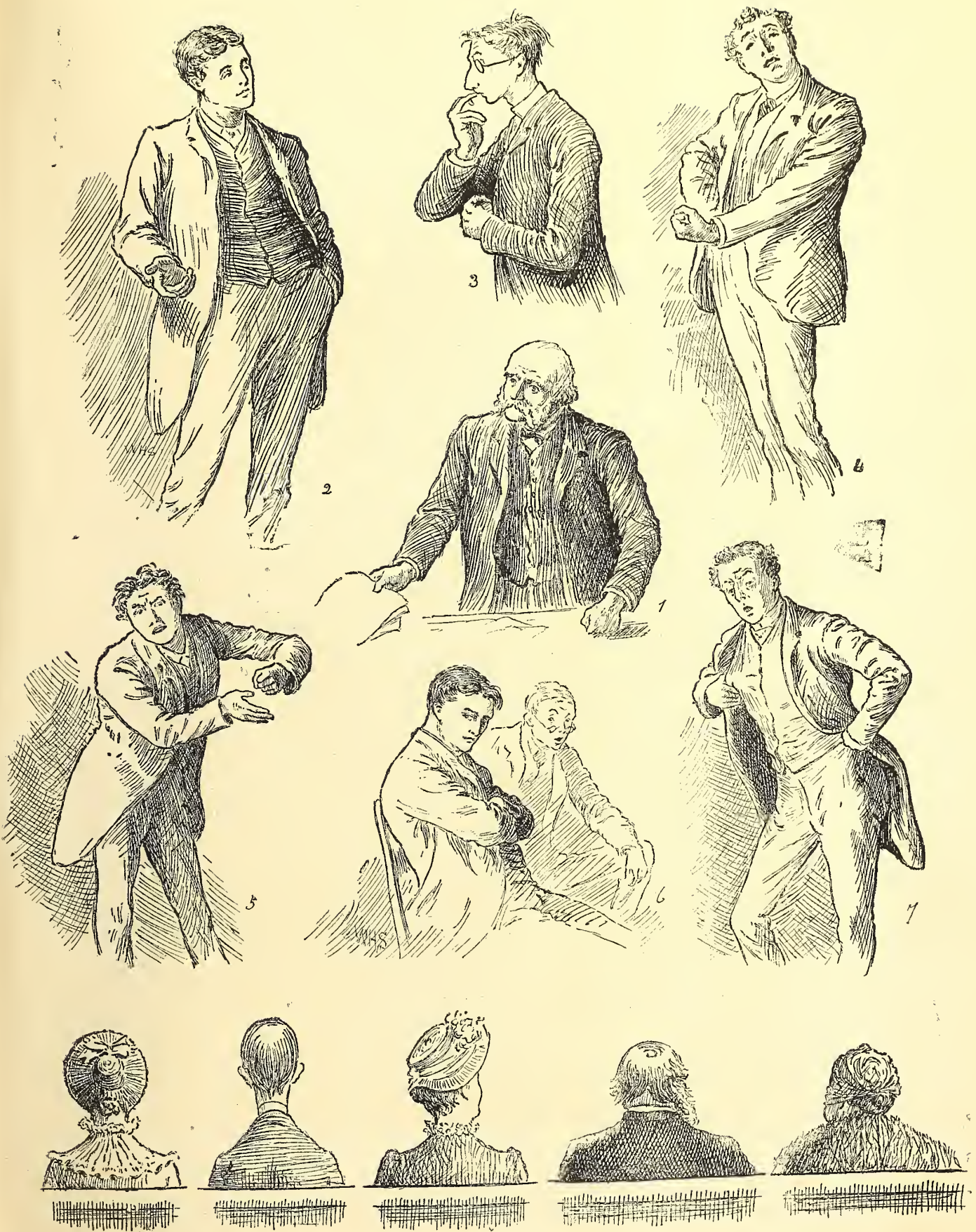
For the sea was dotted with the wreckage, and the frail timbers of the boat might be crushed in at any moment. Each time she disappeared in the wave-hollows among the floating fragments of the ship, the cry was

means inconsiderable chance of being damaged by the floating timbers and cases.

All that night the storm continued. Just before darkness set in a few bodies had drifted into fairly smooth water and been picked up; but it was not until the return of the tide that they were found in any numbers. Many were the watchers during the darkness, but little came to their hands. The sea still raged furiously, and in the first dim light of the dawn it was found that a small coaster had also been blown on to the bar and was just in her last throes. The glasses had hardly been brought to bear

evidence connected with it that the same man had been steward of the Star of Australia, and, injuring his foot, had been left behind on the last trip of that ill-fated vessel when she went to pieces, with all lives lost but two.

Slowly the gale abated. The damage done all down the coast was very great, and of the many small craft afloat when it broke out but few were ever heard of again. The majestic strength of wind and wave has rarely been more appallingly shown, and the colonists of the eastern coast still refer with awe to the great storm of 1866, in which the Cawarra was overpowered by the sea.



Sketches at our Boy's Own Debating Society.

1. The President.
2. A Cool Member.
3. A Nervous Member.
4. The Member who says, "I have never in the whole course of my existence," etc.
5. An Enthusiastic Member.
6. A Thoughtful and a Thoughtless Member.
7. A Critical Member.
8. Some of the Visitors.

ONE OF MOTHER CAREY'S CHICKENS.

BY THE REV. A. N. MALAN, M.A., F.G.S.,

Author of "Cacus and Hercules," "A Dunce's Disasters," "The White Rat," etc.

CHAPTER II.

THE Dumpling was no more affected by his proximity to that game of football than is Nelson's statue by its proximity to those majestic lions in Trafalgar Square.

The fat boy strolled on with his hands in his pockets, whistling "Grandfather's Clock," and banging at everything he passed with an old cricket stump. He left his marks like the North American Indian threading a primeval forest. You could trace his progress everywhere. If Dr. Porchester had the railings painted in the holidays, the Dumpling's stump would register its trade-mark on them before he had been back half a day. Things sacred were no more safe against his vandalism than things profane. The spear-headed railings round the chapel were decapitated here and there by his destroying hand.

I think there must have been sad laxity of parental discipline at home. When his mother first brought him to school she had in a measure prepared Dr. Porchester for the worst. She had said, "I am afraid my boy is not very fond of his books; but he has a decided turn for mechanical pursuits. He is very clever at taking locks to pieces, and cutting things out with his pocket-knife. I hope he will have an opportunity of keeping up these tastes." The Doctor, with a twinkle of grim sarcasm, had replied, "Madam, I quite understand you, and I have no doubt your son will find the opportunity. But at Highfield we call these tastes *mischievous*, not *mechanical*, and do not as a rule encourage them."

The Dumpling sauntered on till he reached the confines of the cricket-field. He banged his stump not once nor twice upon the top wire of the fence, and watched the reverberating thrill pass down to the gate a hundred yards off. He then essayed to surmount the fence, putting one foot on the lowest wire, which bent to the ground, the other foot on the next wire, which gave in proportion. Then by a mighty effort he hoisted a leg over the top wire.

To get the other leg over required him for a moment to poise his unwieldy frame on a wabbling wire about one half-inch in diameter. This Blondin feat was beyond his powers. He lost his balance hopelessly and fell with irretrievable ruin, like a sack of Portland cement, on the same side of the fence from which he started.

Rendered furious by this failure, he got up and belaboured the wires with his club. A second attempt was then made on different principles. He stooped to conquer. Putting his head and arms and shoulders between the second and third wires, he tried to wriggle the hinder portion of his body through. But this also was a hopeless business. The upper wire was elevated to its full extent, the lower one depressed abnormally; but no amount of kicking and jerking would enable the broadest and most circumferential portion of his person to get through.

Once upon a time, in Oxford days, I heard a mouse in my cupboard purloining biscuits. I knew of the hole by which the thief gained access, and opened the door to expel him. Like his prototype in the fable, my intruder had eaten himself to repiction, and, foolish Troglodyte! he tried to escape by that same hole. He got half through, and remained helplessly stuck; and his ineffectual efforts for liberty were highly ludicrous.

Even so was it with the Dumpling, who only after grievous labour succeeded in extricating himself on the wrong side of the fence; baffled a second time, and exasperated into bellowing. He got up, and, like Achilles, shuffled off in mighty wrath to the gate; by which only available entrance he at last achieved his purpose.

There stood an ancient willow-tree in a remote corner of the field. Its trunk was hollowed out by time and decay into a cavernous recess, whereof the sides and ceiling were metamorphosed into touch-wood. Oftentimes, when the sun was shining brightly, would the Dumpling, like Prometheus, draw down fire from heaven with a burning-glass, and set this tree smoking and smouldering. He now bent his steps towards that goal, with what intent I know not.

He arrived on the sound side, and by force of habit began to worry the willow with some vigorous blows of the stump. The immediate result was a screaming and a clucking, and the precipitate flight of a Cochin China hen, the same bird which greeted us at the outset of this story.

The Dumpling jumped, and was on the point of hurling his club at the terrified bird. But he did not do that. He went round the tree and peered into the cavern, and there on a heap of touch-wood that had been scraped into the form of a rude nest he espied an egg reposing.

"Hullo," quoth he; "fresh eggs! Hi cockorum!" by which cabalistic ejaculations he signified his appreciation of the discovery.

He knelt down and took up the egg, and whistled as he turned it round. It suggested a train of thought. The hen, meanwhile, recovered her scattered wits and came as near as she might venture to see what was going on, with pleadings of anxious expostulation that her property might not be pilfered or destroyed.

The Dumpling replaced the egg, and feeling in his pockets, drew forth some grains of Indian corn. With a "coopy, coopy, coopy," to attract attention, he threw a few grains to the hen, which were eagerly devoured. By the aid of more corn he decoyed the bird back to the tree, and when once again she was installed in the cavern, he threw her a few more grains as a parting present, and withdrew, pondering many things in his heart, and soliloquising thus:

"Fresh eggs! I'd be able to get the other things, and just show that young ass Buffles that I can make a trifle."

The next day, at the same time, the Dumpling repaired to the willow-tree; and, after expelling the hen, found, to his delight, two eggs. Of these he selected one, and, depositing some corn by way of payment, he went off rejoicing. On three following days he repeated his tactics, only that on the last occasion he abstracted both eggs, thinking that five would be ample for the dish which was to confute the sceptic Buffles.

No wonder Mother Carey had been outwitted!

I said at the commencement of this tale that the Cochin China hen had been led into deceit by the Dumpling, and there were just grounds for the statement; for we have no reason to suppose that the bird was wilfully disposed to fraud; and, assuredly, had it not been for the fat boy's seductive allurements, she would never have returned to her cavern in the willow after the alarm of her sudden ejection at the point of the Dumpling's club.

When the eggs were safely stowed away in his desk, the pilferer summoned a council of his boon companions and broached the subject so dear to his soul. He commanded Buffles and Grubbins and Stodge and Guzzling Jim to attend his presence one day at the quarter-hour between morning lessons.

"Look here, you chaps! I vote I make a jolly dish of trifle. I've got some fresh eggs, and if you'll help get the other things you shall all have some."

"Hurray, Dumpling!" said Stodge. "What do you want us to get?"

"Well, there's sponge-cakes and strawberry-jam, and butter and sugar, and sherry and brandy."

"I'll make young Talbot stump up a pot of jam," said Grubbins; "he's just had a hamper."

"And I'll spend twopence in sponge-cakes if Punchey brings them this afternoon," said Jim.

"And I'll ask the cook to give me some butter and sugar," said Stodge.

"All right, so far," said the Dumpling. "So you must get the brandy, Buffles. I think we might perhaps make beer do instead of sherry. I'll manage that; but we must have brandy; you can't make it fit to eat without brandy."

"How can I get it?" asked Buffles. "Shall I tell one of the day-boys to bring some?"

"No, you ass!" replied the chief. "You'd better not say a word to any one else. You must get Mrs. Towels to give you some; she has it for fellows when they're ager."

"Well, all serene!" said Buffles: "I'll have a try. Where shall you make it?"

"I haven't quite settled that, but I think in the wood-yard out by the stables. Fellows don't often come there."

It was the Dumpling's orders that all necessary supplies should be procured before evening, so that things should be in readiness for the next day. He also directed that the contributions should be

put in a dismantled tea-chest among the lumber of the wood-yard. Furthermore, to add dignity to the proceedings, he consolidated himself and followers into a Society of Friends, to be designated, "The Jolly Guzzlers." He was to be president; Guzzling Jim, whose soubriquet suggested the title, vice-president; Grubbins, treasurer. Stodge and Buffles had no distinguishing mark beyond the letters "M. J. G.," which they might append to their names in all epistolary communications with their superior officers.

The first meeting was fixed for the next day at 6.35 p.m., immediately after tea, in the dismal wood-yard, where, by the light of a dark lantern, they purposed consuming the dish of trifle, which the president announced he should be able to prepare in the wood-yard during the afternoon of the morrow.

The requisite ingredients were procured without any insuperable difficulty. Jim had been kept in for an imposition between two and three, and found all the sponge-cakes gone from Punchey's basket—only two stale currant-buns left. These he purchased and deposited in the tea-chest.

Buffles had been sore puzzled how to get round Mrs. Towels, the matron, for the brandy. I am thankful to say he would not tell a lie about it, and resolved

to ask point-blank. Mrs. Towels was very kind and indulgent to the boys, and seldom had the heart to refuse them anything asked within the bounds of reason, and these bounds she set with a liberal regard for the queer ideas of boys.

So Buffles approached her with winning words and his most polite air. "Mrs. Towels, would you be so kind as to let me have just a little drop of brandy? I'm not going to drink it, but I want it very particularly. Please do!"

"Oh, my dear! whatever can you want brandy for? Oh! perhaps you want it to rub your chilblains;—a very good thing too, which I always recommend it myself. Yes; to be sure! I'll give you a bit of flannel. Now, Master Browne, don't you tease the cat, there's a dear young gentleman! Yes, Master Dawson, your cap is quite ready; I'll fetch it."

There were generally three or four boys in the matron's room requiring small attentions.

Mrs. Towels was going off to fetch the cap.

"The brandy, Mrs. Towels!"

"It's in the cupboard, my dear. You may take a little. Be sure you take the right bottle."

Buffles lost no time. He opened the cupboard and saw a phalanx of bottles of all sizes and shapes. He had a medicine-bottle and cork ready to hand. Three

among the host were black wine-bottles. He uncorked one of these and applied his nose—not quite sure. Poured a little into his vial—not the right colour. Tossed it into the fire. Buffles tried another. Oh, yes; that was brandy all right. He filled the vial and departed.

Alas! for the frailty of human judgment! This fluid which Buffles fondly supposed to be brandy was nothing else than the most abominable of pharmaceutical concoctions. It was the stuff known as "House Mixture," supplied by the school physician, and dispensed by the matron to boys suffering from a bilious attack.

Off hurried the deluded Buffles to the wood-yard, and found Grubbins just returning from the same errand. The others had all deposited their contributions, and the president was informed with due ceremony. He had borrowed a large earthenware dish of Mrs. Carey.

It was now 2.45 p.m.; there was a clear hour in which to prepare the trifle before school. The Dumpling would not allow any member of the club to assist in the culinary operations. In solemn and solitary silence he took off his jacket, rolled up his sleeves, arranged the messes in order, and went at it with the no-mistakey air of a professional in the confectioner's craft.

(To be continued.)

SHOOTING THE RAPIDS.



YOU must not leave Montreal without first shooting the Rapids.

So said every one whom I knew in Montreal, as my visit to that picturesque old city was drawing to an unwelcome close; and as "what every one says must be right," I determined for once in a way to take advice.

Although vessels, even of the enormous draught of some of the Transatlantic liners, find ready anchorage and wharfage at the Port of Montreal, the city is situated at the very head of the (naturally) navigable waters of the mighty St. Lawrence.

About nine miles above Montreal is the little village of Lachine, and midway between the two extend for some five miles the far-famed Lachine Rapids, the longest, the swiftest, and the most dangerous on the St. Lawrence. A series of very fine locks permit vessels of certain limited draught to ascend and descend between Montreal and the navigable water above Lachine, but at certain times of the year many of the steamers prefer, on their downward trip, to "shoot the Rapids," and so effect a considerable saving both in time and in canal tolls.

To meet one of these steamers at Lachine, and run the Rapids in her to Montreal, is one of the favourite amusements of the tourist and visitor.

The village of Lachine in itself has little

to recommend it to the traveller beyond its lovely situation on the banks of the noble St. Lawrence. It is said to owe its name to the early French explorers of Canada, who were firmly convinced, when they had surmounted the Rapids on their voyage up the St. Lawrence, that they had discovered a new and direct route to Asia. On beholding the vast fertile plain extending back from the river's banks, they loudly exclaimed "La Chine! La Chine!" believing that they had arrived in China. But if not very attractive in itself, the ride to Lachine by rail is very pretty, and the high-road is one of the favourite drives of the Montrealers.

The best time of the year to shoot the Rapids is in the late spring. After the long winter the thawed snow and ice swell the volume of the river considerably, and the height and the speed of the Rapids are proportionately increased. Indeed the feat is very hazardous, and sometimes even impossible, in the late summer and autumn, especially after a dry hot season, when the water is too low to permit a large boat to pass down in safety.

Having finally fixed upon a day for the adventure, one lovely morning in the latter end of May I took train from Montreal, and in about half an hour arrived at Lachine. A very short time sufficed to explore the village, and as the steamer by which I intended to return was not timed to leave Lachine until evening, I took a boat and was rowed across the river to the celebrated village of Cagnetawaga. This settlement is peopled entirely by full-blooded but civilised Indians. They have schools, churches, shops, and every other feature of the white man's village, including unhappily the tavern. They farm and raise some stock, but the greatest part of their income is derived from the sale of curious knickknacks which they manufacture in endless variety. Embroidered moccasins, tobacco pouches, cigar cases, and countless trifles in woven grass, carved wood,

and birch bark, find a ready sale in large quantities amongst the numerous tourists who visit the settlement. The chief of the tribe is the proprietor of a grocery and general shop, in the parlour behind which he receives and entertains visitors in princely style.

Another very profitable source of income to the Indians is the piloting of the vessels which shoot the Rapids.

The channel is so narrow and tortuous, and the risks so great, that few white men will venture to run a boat down. But the Indian pilot, to whom every foot of the river is familiar, takes charge of the wheel with the utmost confidence; a confidence, it is only fair to say, which is very rarely misplaced.

After a pleasant chat with various members of the tribe, I was preparing to recross the river, but on learning that I intended to shoot the Rapids, the chief very courteously offered to put me on board the steamer in his own canoe, adding that he himself was engaged to pilot the steamer down. Although I had imbibed a very wholesome dread of the frail brown-papery-looking birch-bark canoe, which does duty as a boat universally on the upper waters, I accepted his kind offer, and shortly afterwards, seeing the smoke of the approaching steamer in the distance, we put off.

In the bow of the canoe knelt a stalwart, handsome young brave, wielding with great vigour and dexterity a short, broad-headed, single-bladed paddle. In the stern knelt the chief, also plying a paddle, and between them I, the passenger, crouched in a sort of Turkish cross-legged fashion on the bottom of the canoe.

Under the energetic strokes of the Indians a very short time sufficed to send the canoe across the river (which is here over a mile broad), and just as we reached the landing the steamer, slackening her speed, drew up to the wharf. I scrambled on board, nearly

upsetting the canoe as I did so, followed by the chief, who, with a nod to the captain, at once stepped aft and took the wheel. Following the instructions I had received, I made my way to the very prow of the vessel and awaited developments.

For the first few minutes nothing very striking occurred, save that as the steamer swung out into the current her speed rapidly increased, but after traversing rather more than a mile, as she turned a bend in the river, there lay the Rapids right in front of us.

With a speed already terrific, but always increasing, the boat dashed on. The first intimation I received that we had entered the Rapids was a heavy shower of spray as she dashed into the foaming, seething flood. Then all my energies were required to hold on to a friendly rope and hope for the best.

With racehorse, nay, with express-train, speed, the gallant boat plunged through the rushing torrent. At times her prow far out of the water and her keel shining in the sun. Again, a sudden shiver and a plunge as her bow buried itself in the waves and the stern in turn stood high. And all the time her huge paddles thrashing the foaming, raging river into even more maddened fury.

The rate at which the river flows down the Rapids has been estimated at about forty-five to fifty miles per hour. The steamer, in order to have some steerage-way upon her, that she may be obedient to her helm, must go still faster than the current, so the average rate for those five miles of Rapids cannot be much under a mile a minute.

About halfway down the river is divided into two branches by a green and tree-covered islet. One side of this islet consists of a huge mass of jagged rock, and for this rock the pilot held the steamer right head on. Involuntarily I let go the rope by which I was holding, and gathered myself together for a spring the moment she touched; it seemed as if all hope was gone.

Driving at terrific speed through such raging water it did not seem possible that

wrenching swoop, like a swallow on the wing, the good boat spun round, her paddles revolving at racing speed, and with the dart of an arrow she shot across the river.



The Indian Pilot.

So close did she pass that the overhanging boughs of the island trees brushed her paddle-boxes as she dashed by.

It seemed a very near touch, but the only practicable chance through the middle Rapids is the direct course we took. Should the helmsman lose his nerve at the critical moment, should the boat refuse to answer her helm, or the engines to act in accordance with the pilot's orders, nothing but absolute destruction can result. But the calm self-possession of the Indian pilot, the unceasing watchfulness and implicit obedience of the steamer's hands, and the careful supervision all her parts regularly receive, bring the

plain sailing. The landsman, fortunately for himself, cannot see the cruel submerged rocks, with their jagged edges ready to tear the whole bottom from the stoutest-built boat, and the swift cross currents, powerful enough to drag the strongest steamer from her course, hurl her into the foaming breakers above the rocky reefs, and dash her into a million pieces.

But to the trained eye of the pilot all these are as clear and evident as the steamer's deck. With never-relaxing vigilance his gaze is fixed ahead on signs and guiding marks known only to himself.

Backwards and forwards, with never ceasing motion, turns the great wheel, its spokes grasped firmly in his sinewy copper-coloured hands. Constantly sounding, too, is the engine-room signal bell, conveying his instructions to the men in charge of the engines.

And beautifully the boat behaves. Darting hither and thither in obedience to her helm, she threads the mazy lines of rocks and currents, always on the very edge of destruction, but always, just when it seems all hope is gone, shooting back into safety.

However, at the speed we have come at, even five miles of Rapids must soon be passed. Now the steamer's speed is perceptibly slackening, and as we glide under the grand Victoria Bridge—the wonderful tube (only some sixty yards short of two miles in length) which the celebrated Robert Stephenson designed and built across the St. Lawrence at a cost of about £1,300,000—into the calm but still swift current of the lower river, we look at our watches.

“What! Only twelve minutes from Lachine! Why, it seemed hours. Hours certainly we hung dead stern on to that great island rock!”

But no; in twelve minutes we have run down about eight miles; three of them at rapid speed certainly, but five of them in not much more than five minutes!

The remaining mile to the steamer's wharf is done at a much more leisurely rate, and



Shooting the Rapids.

any human power could avert the apparently impending calamity.

We were within twenty yards of the rock. Already one could see the mosses and lichens which clad its crannies, when, with a sudden

vessel through in entire safety nine hundred and ninety-nine times out of a thousand.

After the islet reach is passed, although the dangers are by no means over, to the inexperienced eye all seems comparatively

as she swings steadily in to the landing-place, amid all the noise and bustle of passengers preparing to land, I hear the captain heave a deep sigh of relief.

I don't wonder either.

C. M.



Fig. 1.



Fig. 2.



Fig. 3.



Fig. 5.

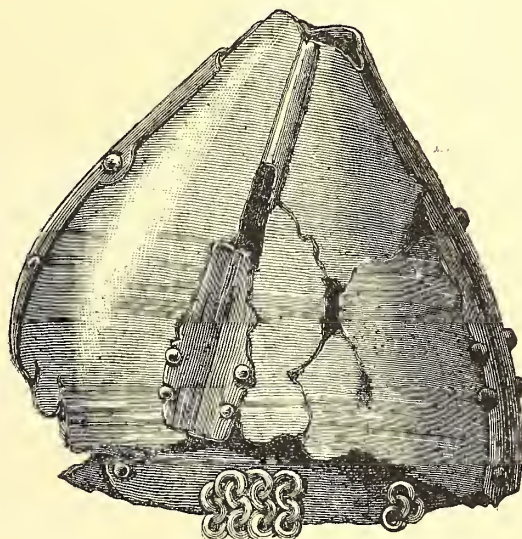


Fig. 4.

1. Assyrian warrior at a triumphal entry into a conquered city.
2. Assyrian warrior shooting behind a portable pavis.
3. Assyrian slinger.
4. Assyrian helmet.
5. Ancient Roman warrior.
6. Combat between Menelaos and Hektor over the wounded Euphorbos.

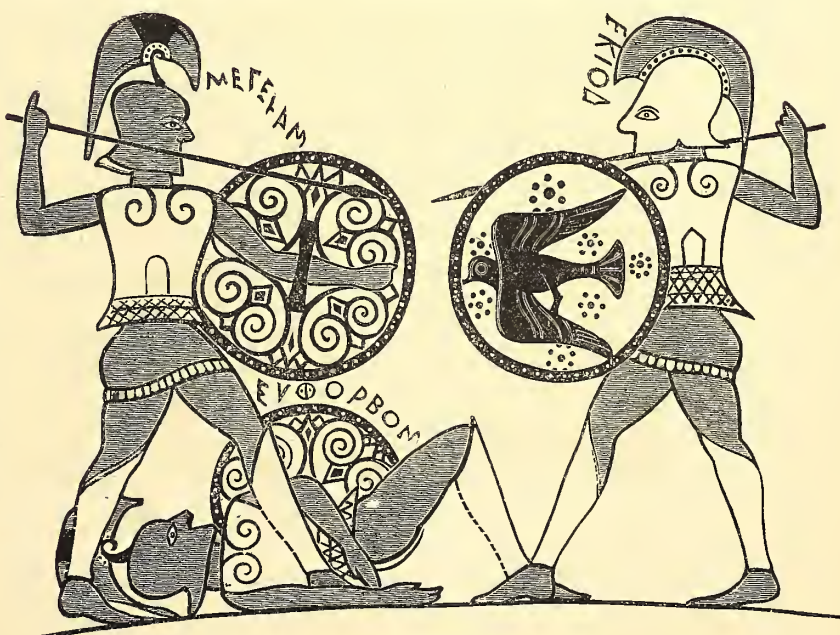


Fig. 6.

ARMOUR IN HISTORY AND ROMANCE.—See p. 25.

By JOHN SACHS.



PURPOSE, at the suggestion of our Editor, giving a brief but thoroughly trustworthy description of the different kinds of armour used in times past.

We commenced our pleasant task by obtaining permission from the Secretary of State to sketch examples in the Tower of London; and we also selected and engraved from the specimens, man-

uscripts, and sculptures in the British Museum, as well as gathered from other authentic English and foreign sources, the facts which we hope will at once entertain and instruct our boy readers the world over.

In remote times, as man felt the danger to life from the club, pointed stick, arrows from the bow, and missiles from the sling, he, in self-defence, according to his resources and means, invented coverings for the head and body proof against these weapons. We have, of course, all read the eleventh chapter of Genesis and thirteenth verse, which shows that the Israelites were acquainted with the bow at a very early period, and probably used shields and some kind of defensive armour. We can see what they were like from the ancient Egyptian paintings and sculptures.

Fig. 1 represents an Assyrian warrior at a triumphal entry after the conquest of a city. He is holding up a shield, the handle of which is across the inside of the central boss. Remains of actual Assyrian shields now in the British Museum show that the boss, or umbo, were sometimes constructed of iron, and are remarkably like the remains of shields found in Saxon graves in England. The caps of the ancient Assyrians were probably of leather, but the shape was imitated in metal, as we shall presently show. On their bodies is fitted a sort of corselet, probably of horn-plates, sewn on leather; their legs seem defended likewise.

Fig. 2 shows two Assyrians in a similar costume. One holds a spear in one hand,

and in the other a tall shield, which is curved at the top for the purpose of glancing off arrows and missiles. Behind this defence the front figure is shooting upwards with a bow and arrow.

Fig. 3 also represents a slinger in military habit, but he has a strap over his shoulder for carrying a receptacle for stones. These sculptures date about the period of the prophet Daniel, and probably illustrate the arms and armour of a century previous.

In 1 Sam. chap. xvii., we have an early example of a battle decided by single combat. Goliath is described as having a helmet of brass, being armed with a coat of mail of heavy weight, greaves of brass or bronze upon his legs, and a target or gorget between his shoulders, the staff of his spear being like a weaver's beam, and one bearing a shield going before him. Well, Fig. 4 is copied from the actual remains of an Assyrian helmet found at Kojoungik, and preserved at the British Museum. The pattern is like the caps on the soldiers above illustrated. This helmet is of bronze, further strengthened with bands of iron. The whole when bright and polished must have had a brilliant effect. Around the bottom of the helmet are the remains of a camail, or cape, constructed of iron rings, that was attached to the helmet and spread over the shoulders. This example shows the early use of chain-mail, of which defence we shall have more to say.

Fig. 5 is from an early Roman example, and shows a transitional, or mixture of two fashions, the cap pattern giving place to a crested helmet, the body-dress similar to the Assyrians, which was called by the Romans *Loricæ*, but the greaves to the legs are of bronze.

As the art of working in metals was developed, the cuirass was made in two pieces only. An early example (Fig. 6) can be seen on a Greek earthenware plate exhibited in the British Museum, and is supposed to date 600 B.C. The subject represents a combat between Menelaos and Hektor over the wounded Euphorbos. These Homeric names are inscribed in Archaic Greek letters over the figures. Their helmets are made to cover the whole head and are curved at the back for the convenience of holding the head upwards; a mask pattern is on the front with apertures for sight and breathing. From the stiff appearance of the cuirass and greaves they are evidently intended to represent metal.

Later the Greeks moulded the cuirass anatomically to fit the figure, which fashion lasted throughout the Greek to the decline of the Roman Empire. Fig. 7 is from a specimen in the British Museum. The helmet has a metal piece to protect the face. The decorated greaves remind us of the elaborate designs Vulcan worked on the armour he constructed for Achilles. This specimen probably was similar to the armour that Titus

wore before Jerusalem, where he twice saved an entire Roman legion when in jeopardy by his courage and skill in arms. He must have been quick in his sight and ready, for Josephus relates that once Titus went to view the city of Jerusalem without taking

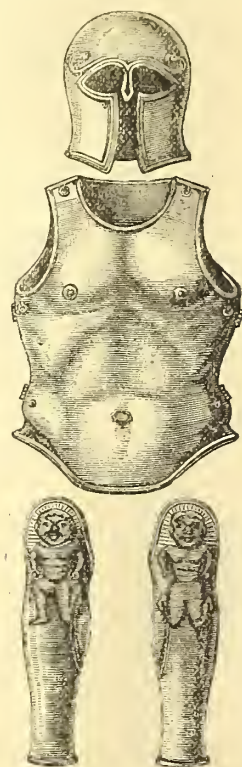


Fig. 7.

the precaution of wearing armour. He was observed by the Jews, who shot darts at him which he diverted with his sword.

The coming of an armed man (Prov. vi. 11) must have been a terror in those days. This was the armour that the Apostle Paul bore in his mind when he wrote in his Epistle to the Ephesians, vi. 13 to 17, "Wherefore take up the whole armour of God, that ye may be able to withstand in the evil day, and, having done all, to stand. Stand therefore, having girded your loins with truth, and having put on the breast-plate of righteousness; and having shod your feet with the preparation of the gospel of peace; withal taking up the shield of faith, wherewith ye shall be able to quench all the fiery darts of the evil one. And take the helmet of salvation, and the sword of the Spirit, which is the word of God."

(To be continued.)

MY PARROT.

MANY are the wonderful and amusing tales told about parrots, some of which one must receive with caution. There are birds who by a marvellous degree of intelligence seem always to say the right thing at the right time. This wonderful gift I do not pretend to claim for my parrot; still I am bound to say that she is a most amusing bird.

Polly is a grey parrot, a native I believe of the West Coast of Africa. She has now been in my possession about three years, having

been brought from Madeira in her infancy, by a friend on his voyage from England to the Cape. Finding, however, on his arrival in Capetown that he would have to proceed some distance up country, he most kindly made me a present of the bird.

By degrees Polly lost her wild and timid nature, and is now most tame and affectionate. Nothing delights her more than to have the top and sides of her head gently rubbed, for which purpose she will always come to one side of her cage, and seems ab-

solutely to *thrill* with delight under the operation, turning her head in every direction and pecking gently at my fingers. At one time she was very fond of screaming out, "Scratchy pole," which she had learnt from me, and always seemed to associate with this head-rubbing. I often now do the same thing under her wings, for which purpose she will always raise them, and gently peck my fingers the while. She also allows me to take her out of the cage, and will climb to my shoulder and place her beak against my

cheek and lips in a most affectionate manner. I might still describe many of her interesting and amusing tricks, but will tell you instead a little about her talking powers.

Of course the ABC of this branch of her education was (as it is in the case of so many human parrots) admiration of self. "Polly," "Pretty Polly," "Pretty birdie," "Dear old birdie," and so on. All these she will repeat in every imaginable tone of voice. I remember one morning about twelve months ago I came downstairs from my room and was reading the morning paper just inside the hall door, Miss Polly being in her cage outside on the stoep. While reading I heard as I thought the voice of Doctor C. (the gentleman of the house) speaking to Polly as I had often heard him: I therefore looked round the corner with the intention of wishing him good morning, but to my surprise Polly was the only individual there, and she it was who had so exactly imitated my friend's voice. This gentleman is now dead, but I still often hear Polly praising herself in precisely the same tone of voice. At the same house we had a lemur, or Madagascar cat, which, though a very pretty little creature, was not only treacherous in its temper, but also possessed a most atrocious voice, very much like that of a cat in a bad temper. This, I am sorry to say, Polly at once picked up, and seemed to irritate the lemur exceedingly by her mockery of it. She also imitated very naturally the yelping of a small dog. I am glad to say she seems to have forgotten the lemur's melodious cry, though she still occasionally mews and barks very naturally.

After I left the friends with whom I was staying I took private rooms, and here Miss Polly was a very pleasant companion, especially at my lonely meals. She seemed quite to look forward to evening, when I always let her out and allowed her to stand on the top of her cage close to me. Here she had literally a "bird's-eye" view of the table and its contents, and sometimes, if I put her within reasonable distance, would stretch out one leg to its utmost extent, and by aid of claws and beak obtain a footing on the table, when she seemed to imagine that everything was her peculiar property, though the milk-jug was the object of her more special attention. I always gave her some bread and milk when I had finished my own meal, and directly she saw me preparing it and heard me say, "Is this for Polly?" down she would walk from her exalted position, enter the door, and wait anxiously for me to fill her tin.

During this time I taught her several sentences, such as "You donkey," which she ever after seemed to delight in calling me, laying special emphasis on the quadruped's name. She would then indignantly scream to be released from captivity, "Let me out," "You let me out," or would all at once appear very anxious to dispense with your company altogether, shouting out, "Get away," "You get away."

I have now left these rooms, and am living with an old friend whom I knew well in the dear old home country. Between us Polly's education proceeds rapidly. Mr. H. is fond of attempting to pull Polly's red tail, of which she is very vain, and it is most ludicrous to see her skip about in her cage in order to escape the indignity. It occurred to me on seeing this to teach her the sentence, "You let my tail alone!" which she is now never tired of repeating in the most emphatic manner, though I must say it is always when no one is thinking of attempting such a thing. The stress she lays upon the word *tail* is most amusing. "Let my *tail* alone! You let my *tail* alone!"

At one time she very much hated a stick, especially if one attempted to poke her with it, when she would scream most indignantly. She now, however, is so accustomed to it that she will even allow it to be rested on her back, or her head to be rubbed with it. I think, as a rule, it is very unwise to tease, because it is liable to make the bird treacherous and bad-tempered, but no teasing seems to have such an effect on my parrot. Indeed, she appears rather to enjoy it than otherwise. She is now while I am writing screaming out the inquiry, "Who are you?" and persists in doing so though I have constantly told her that "I am the owner of a very noisy bird."

The chief times for displaying her conversational powers are early in the morning, about three in the afternoon, and at sunset; indeed, such a noise does she make that my friend has nicknamed her "the old chatter-box," of which title she so much approves that she is never weary of repeating it.

One more amusing point I must mention, and that is that she appears at times to confuse her sentences, or stop in the middle, as if uncertain whether she was correct in her statement. For example, I have heard her confuse the two sentences, "You donkey!" and "Dear old Polly!" in this way: "You—dear old Polly!" or again, having repeated the vowels (for she has commenced her alpha-

bet), she will end by calling you a donkey, thus, "A-e-i-o-u—donkey!" She will also at times omit a syllable or word altogether, making the sentence sound very ludicrous. For instance, "You donkey!" is sometimes, "You donk . . .!" "You let my tail alone!" is "You let my . . . alone!" and so on.

It is most amusing also to listen to her when talking to herself, which if no one is near she occasionally does, in a kind of confidential tone which it is impossible to make anything of, but which reminds one of the common "Punch" call. Her whistling powers are also very remarkable, the tones being exceedingly rich and varied, and sometimes in the evening, when I open my room-door and the light from the lamp streams on to her cage, there is a preliminary flutter of her wings, a low kind of amused chuckle, and she then breaks out into a whistle such as I have described, generally ending up when the door is shut with a low-toned and confidential "Polly!"

In conclusion, I need hardly say that the above sketch is not in the slightest degree exaggerated, nor though I have been told by others of many more accomplishments possessed by Polly, I have been careful to relate nothing which I have not heard or seen myself. Polly is certainly a most amusing and affectionate bird, but I do not, as I said before, claim for her anything but a degree of intelligence (if we may so call it) greater perhaps than that possessed by the majority of parrots, and, as I have often told my pupils, nearly equal to that of many boys I know. As to the best way of teaching parrots to talk, I perfectly agree with a statement I read in the BOY'S OWN PAPER some time ago. Try and gain the bird's affection by kindness, and always taking care to feed it yourself. Just one word before I end, on a question about which there seems to be a great diversity of opinion, "Is it a good thing to give parrots water?" I never do so myself, though I always give her bread moistened with milk morning and evening and a few mealies (known to you as Indian corn or maize) at midday. Of course I also give her fruit when possible. Grapes, of which in season there are plenty at 1s. 6d. per bushel basket, she is particularly fond of. As regards the water question, an old lady who had a parrot nearly twenty years assured me that she never gave her any water at all.

Capetown, South Africa.

J. D.

THE STAR OF THE SOUTH:

A TALE OF THE DIAMOND FIELDS.

BY JULES VERNE,

Author of "The Boy Captain," "Godfrey Morgan," "The Cryptogram," etc.

CHAPTER II.—TO THE DIAMOND FIELDS.

WHAT most humiliated the young engineer in the answer he received from Mr. Watkins was the fact that, in spite of the rudeness in which it was couched, the decision was not unreasonable. When he came to think matters over he was surprised at himself for not having seen the farmer's very obvious objections.

But the fact is, that up till then he had never dreamt of the difference of fortune, race, and education between the young lady and himself. Accustomed for the last five or six years to regard minerals merely from their scientific point of view, diamonds were in his eyes but specimens

of carbon adapted for exhibition in the museum of the School of Mines. In France he had moved in quite a different social circle from what he did here, and he had quite lost sight of the commercial value of the rich mine possessed by the farmer. The thought that there was a difference in station between the daughter of the owner of Vandergaart Kopje and himself had never entered his head.

The sharp reprimand he had received from Watkins awoke him from his illusion. Cyprien had too much sense not to appreciate the farmer's reasons, and too much honesty to be angry at a decision

which he admitted was, in the main, a just one.

But the blow was none the less severe, and now that he had to give up Alice he found how dear she had become to him in those three months. For only three months had elapsed since his arrival in Griqualand.

How far off it all seemed!

Landing with his friend Pharamond Barthes—an old schoolfellow who had come out to South Africa on his third hunting and exploring expedition—he had separated from him at the Cape. Barthes started for Basutoland to engage an escort; Cyprien secured a seat in the

heavy, lumbering, fourteen-horse waggon—the stage-coach of the Veld—and set out for the Diamond Fields.

Five or six huge cases—a complete chemical and mineralogical laboratory, from which he was very loth to part—formed the luggage of the youthful scientist; but the coach only allowed a hundredweight of luggage to each passenger, and he had consequently been obliged to entrust his precious cases to the tender mercies of a bullock cart.

The “coach” held twelve passengers. It was covered with a canvas tilt, and had four enormous wheels constantly wet from crossing the fords. The horses, which were occasionally replaced by mules, were harnessed in pairs, and driven by two coachmen seated side by side on the front bench. One held the reins while the other manipulated a tremendously long bamboo whip, not unlike a huge fishing-rod, and used it to guide the horses as well as to urge them on.

The road goes by Beaufort, a pleasant little place at the foot of the Nieuwveld

rock cropping out from below, half-starved-looking bushes, and here and there a stunted sickly plant. At long intervals a few dilapidated farms doing duty for inns. The hospitality of these inns is somewhat rudimentary. The “good accommodation for man and beast” comprises neither a bed for the man nor litter for the beast, and the provisions are tinned ones that have gone the round of the world, and sell at the buyer's risk for their weight in gold.

There being nothing for the horses at the farms, the teams are unharnessed and allowed to wander about in search of their own food. They have to be caught again before a start can be made, and the loss of time thus occasioned may be imagined.

Great is the jolting of the primitive coach along the still more primitive roads. The seats are the lids of the wooden lockers which hold the light luggage of the passengers, and on them for a week or more their possessors go thump-jump like so many forge hammers as the waggon rolls along. Impossible to read,

Nathan, an expert in diamonds, who kept himself quiet in a corner and looked upon humanity like a philosopher; a tall collier, Thomas Steel, with a red beard and broad shoulders, who had left his native Lancashire to try his fortune in Griqualand; a German, Herr Fredel, who spoke like an oracle and knew everything about diamonds and diamond digging—in theory; a thin-lipped Yankee, who reckoned to open a canteen and persuade the miners to waste their hard-earned wealth; a farmer from the Hartz; a Boer from the Orange Free State; an ivory trader on his way to Namaqua Land; two Transvaal colonists; and a Chinaman named Li—like every other Chinaman—made up the most heterogeneous, noisy, and disorderly company in which it was ever given to a man to find himself.

At first Cyprien was amused, but not for long. There was only Steel with his massive strength and loud laughter, and Li with his gentle catlike ways, in whom he continued to take the slightest interest. To the Neapolitan, with his spiteful buffooneries, he felt the strongest aversion.

One of the most popular jokes of this personage consisted in his tying on to the Chinaman's pigtail, whenever he got an opportunity, a collection of miscellaneous objects, such as bundles of greens, cabbage-stalks, a cow's tail, and a horse's bladebone, picked up on the road.

The Chinaman unconcernedly removed the articles from his appendage, and neither by word, look, nor gesture showed that he considered the pleasantry beyond the bounds of propriety. His yellow face and little almond eyes were as unalterably placid as if he were quite a stranger to what was passing around him. In fact it seemed as though he understood not a word of all that was spoken in this Noah's Ark bound north for Griqualand.

And Annibale Pantalacci, in his broken English, was profuse in his very vulgar witticisms on the same subject, and kept the travellers in a roar of laughter. What made the laugh all the longer was that the Boers invariably took some time to see the joke, and burst out noisily about three minutes after everybody else.

Cyprien at last became indignant at the dead set thus made against the unfortunate Li, and told Pantalacci that he ought to be ashamed of himself. The Neapolitan would probably have made some insolent rejoinder, but a word from Steel put a sudden check on him.

“No,” said the Lancashire man, regretting that he had laughed with the others, “it isn't fair play to keep on like that at a chap who doesn't even understand your lingo.”

Here the matter dropped for a time. But a few minutes after Cyprien was surprised to see the quietly ironical look of thanks with which the Chinaman regarded him, and which made him think that Li knew rather more English than he gave him credit for.

But it was in vain that at the next halt he tried to engage the Chinaman in conversation. Li remained mute and impassible. Henceforward the young engineer looked upon him as an enigma whose key might be found with perseverance, and made a constant study of the smooth yellow face, the mouth like a sword-cut opening on to the row of very white teeth, the short broad nose, the



“One of the most popular jokes of this personage.”

Mountains, across the hills to Victoria, then to Hopetown on the Orange, and thence to Kimberley and the principal diamond centres, which are but a few miles away from it.

It is a wearying, monotonous journey across the Veld, and takes from eight to nine days. The landscape is most miserable—red plains, scattered stones like moraine rubbish on the surface, and grey

impossible to sleep, nay, even impossible to talk!

Cyprien's fellow-travellers were fairly representative of the floating population peculiar to gold and diamond fields. There was an ungainly Neapolitan, with long black hair, a face like parchment, and a pair of glittering treacherous-looking eyes, who said his name was Annibale Pantalacci; a Portuguese Jew named

large forehead, and the slanting eyes always cast down as if to hide the latent malice in their look.

and stockings of immaculate whiteness, might have belonged to a mandarin of the first class or to a man of the people.



"Bound north for Griqualand."

What age was Li? Fifteen or sixty? Impossible to say. If his teeth, his eyes, and his hair black as soot, made him look quite young, the wrinkles in his forehead, his cheeks, and even round his mouth, gave him the appearance of an old man. He was short and of slight active build, and seemed to be rather a good sort of fellow than otherwise.

Was he rich or poor? Another dubious question! His grey trousers, yellow blouse, plaited string hat, felt-soled shoes,

His luggage consisted of a solitary red box with an address in black ink,

"H. Li,

"From Canton to the Cape."

The Chinaman was the very pattern of neatness, never smoked, nor drank anything but water, and took advantage of every halt to carefully shave his head.

Cyprien found he could make nothing of him, and soon gave him up as a mystery.

(To be continued.)

AN EVENING AT THE IVY.

BY THEODORE WOOD.

PART II.

WITH such pleasant recollections thronging into our memory, the lantern is lighted, a supply of boxes placed ready to hand, and our companion takes the net, which is to be held beneath the blossoms under examination in order that the designs of the artful ones may be frustrated. Cautiously and hopefully the light is turned on to the nearest flower, just in time to see one of the beautiful *Xanthia* moths, which had been fluttering over the blossom, take hurriedly to flight. No matter, however; he had only been experimenting, and is sure to return before very

long, for he must be unusually strong-minded if he is able to resist the seductions of the fragrant bloom.

Only an inch or two farther away is a specimen of the Red-line Quaker (*Orthosia lota*), resting side by side with an Angle-shades (*Phlogophora meticulosa*). Both insects are busily engaged, and are so absorbed in their occupation that the glare of the lamp-light is not sufficient to check their repast for a single moment. Nor does the Angle-shades deign to move even when his companion is pill-boxed, seeming to feel that he himself is

far too common an insect to be at all likely to share a similar fate. We do not abuse his confidence, and leave him still in the hearty enjoyment of his repast.

A couple of earwigs are hard at work upon an adjacent flower, and keep constantly shifting their position, as though to ascertain by the most satisfactory test—that of personal experience—the very best position for extracting the sweet juices. Hard by the two explorers is a large spider, evidently upon the look-out for victims, for he, at all events, is not likely to be contented with a vegetarian diet, even though the banquet consist of veritable nectar. Perhaps he will try conclusions with one of the earwigs, in which case a very sharp little battle will probably be the result.

Upon the very next blossom is another of the *Xanthias*, a splendid specimen of the Pink-barred Sallow (*X. silago*), perhaps the most exquisite species of this beautiful genus, with its orange wings traversed by markings of richest purple. One rapid movement of the finger and thumb and his fate is sealed, a second pill-box being immediately handed to us by our companion, in readiness for another victim.

Here is a shocking example of the evils of intemperance in the form of a belated butterfly, which, either unable or unwilling to leave the tempting repast at the approach of darkness, is now in a hopelessly maudlin condition, inert and sluggish, and falling helplessly to the ground when we forcibly remove him from his perch. Well, he must take his chance, but it will be odd indeed if some wandering toad, or other untiring foe of the insect race, does not snap him up before he has slept off the effects of his debauch.

Common moths are in plenty, for darkness has now fairly set in, and new visitors arrive in a constant and unbroken stream. All around us are dusky forms flitting to and fro, now dimly outlined against the sky, and now visible only by reason of the refulgent lustre of their eyes, which look like so many minute globes of liquid fire as they reflect back the light of the lantern. Almost every blossom, too, is tenanted by one or more occupants, and the overcrowding upon certain favoured sprigs of bloom is sometimes quite amusing to witness.

Here is something worth having at last in the shape of a magnificent specimen of the Pearly Underwing (*Agrotis saucia*), a large and somewhat clumsy insect about the size of the common Yellow Underwing. This is by no means a common species, and we are very pleased when he is safely installed in a commodious pill-box, and transferred to the coat-pocket set apart for captures.

There are plenty of such common things as Chestnuts (*Glaea*), Yellow-line Quakers (*Orthosia macilenta*), Angle-shades, and so on, diversified every now and then by a *Xanthia* or a delicate Marbled Carpet (*Cidaria rusata*). Here and there, too, is a Sword-grass (*Calocampa exoleta*), looking, as the Rev. Joseph Green happily puts it, not unlike a sausage, while Yellow Underwings (*Triphana*), Small Square-spots (*Noctua rubi*), Lunar Underwings (*Anchoclis lunosa*), Beaded Chestnuts (*A. pistacina*), and various others, are occasionally met with. We get a nice series of the Brown-spot Pinion (*A. litura*) also, as well as several beautiful specimens of the Green-brindled Crescent (*Miselia oxyacantha*), which are very welcome to replace the damaged examples at present in our collection.

With all these captures, our store of empty pill-boxes is fast decreasing, and we are obliged to pass by many insects which we should otherwise have taken in order to leave room for any occasional rarity with which we may be fortunate enough to meet. Well is it for us that we did so, as it shortly turns out, for a beautiful specimen of the Orange Upper-wing (*Hoplorina croceago*) is discovered intent upon making the best use

of his time at a peculiarly luxuriant blossom. Now we find the advantage of insisting that the net shall always be held in readiness beneath every blossom as it is examined, for our friend *croceago* drops as soon as the lantern light is turned upon him, and is intercepted and pill-boxed as rapidly as though he had allowed himself to be captured in the ordinary manner. This is a prize indeed, being by far the best insect with which we have met this evening, and as it is a new species to our collection we are greatly elated in consequence. Hopes of further specimens urge us on to further exertions; but these hopes, alas! are doomed not to be realised.

Another intoxicated butterfly is detected before we leave, and shares the same fate as his predecessor. One or two bees and wasps, too, we find in the same condition of hopeless drunkenness, with but just sufficient strength remaining to cling feebly to their footholds. Some of the moths, too, which were earlier visitants than their comrades, and have consequently enjoyed greater opportunities for tipping, are beginning to show pretty evident signs of having absorbed as much as is good for them, for no amount of touching and poking will cause them to take to flight, or even to fall to the ground. Two or three more of these find their way into our boxes,

but one of which now remains empty, and this we reserve in case of meeting with something while on our homeward way.

And so, after a couple of hours or so of pleasant and exciting work, we bid farewell to the ivy, and set out upon our return journey. We have seen no Dotted or Red-headed Chestnuts, it is true, but we have got *croceago*, as well as several lesser rarities, and have therefore no cause to feel discontented. And, long ere we reach home, we resolve that before the season is over we will try our luck again, and see whether we cannot do still better while enjoying another evening at the ivy.

AMONG THE BLACKS;

OR, STRANGER THAN FICTION.



the few cases of white men abandoning civilisation to live for a time among the Australian Blacks, none is more interesting than that of the shipwrecked cabin-boy, Narcisse Pellatier.

Pellatier was the son of a shoemaker at Saint Gilles, near Bordeaux, and, in 1858, was cabin-boy of the Saint Paul, a French vessel then on a voyage from China to Australia with three hundred and fifty Chinese emigrants. All went well with the Saint Paul until she was off the south-east of New Guinea, when, as she was passing through the Louisiade Archipelago she struck on a reef and became a total wreck. Fortunately no life was lost and all got safely to shore.

The boats, however, were insufficient to carry more than the crew, and the captain, feeling uneasy at remaining on an island liable to be swooped down upon at any time by a band of reputed cannibals, resolved to leave his passengers behind him and take his crew to the Australian coast. The unfortunate Chinese were consequently abandoned, and the boats started on their six-hundred-mile sail.

The natives of the archipelago did not belie their reputation. They soon discovered the Chinese and made them prisoners, and then proceeded to feed upon them. In the most deliberate manner they killed off the Celestials two at a time, and out of the three hundred and fifty no less than three hundred and thirty-four had furnished forth the cannibal banquet when the sixteen survivors were discovered by a passing vessel, and rescued from their horrible fate.

Meanwhile the boats of the Saint Paul had successfully crossed to the mainland, and reached First Red Rocky Point, a little south of Cape Direction on the Cape York Peninsula. Here, after a short stay, the captain abandoned Pellatier, as he had abandoned the Chinamen, and put to sea to make his way down the coast. The selfish Frenchmen were never heard of again: a storm came on, and the boats were probably swamped.

The Blacks at Cape Direction found the boy asleep. Seeing he was hungry they gave him food, were kind to him, and took him off with them to their huts. With them he lived for seventeen years, fishing, hunting, and fighting with the neighbouring tribes.

He was discovered on 11th April, 1875, by the crew of the John Bell, pearl schooner, then at anchor off Night Island. He was quite naked, his body had darkened to a rich brown-red, his skin was glazed, and his breast was tattooed with scarifications as thick as a pencil, and in the lobe of his right ear was a piece of wood half an inch thick and four inches long. Of his tattoo scars he was very proud; they had been made with pieces of quartz, and in order to get the relief the lips of the cuts had been raised by constant pinching during the healing process.

He was very loth to leave the Makadamas—such is the name of the tribe in that part of Northern Queensland—and they were very sorry to lose him. He had retained his knowledge of reading and writing, could count up to a hundred, and drew excellent sketches of the animals he had hunted during his long spell of savagery. At first, he said, his thoughts often reverted to his father and mother and the home he had left, but as the years rolled by all such ideas faded from his mind, and he became thoroughly identified in thought and action with the aboriginals. Sudden as was the change to civilisation, he bore it with equanimity, and returned to France, where, according to the latest advices, he is still alive.

Another famous instance of life with the Blacks is that of William Buckley, "the Wild White Man of the Australian Bush," who died in Hobart in 1856. Buckley had been one of the conspirators to assassinate the Duke of Kent at Gibraltar. He was transported in 1803, and went to Australia in the fleet under Governor Collins, the first sent out to settle Port Philip. On the 27th of December of that year Buckley and several of the other convicts escaped, and Collins had in consequence to abandon the settlement. Buckley lived with the Blacks for thirty-two years, and when found in 1835 by the first permanent settlers, had almost forgotten his language, and was in every respect a savage. In a short time, however, he became fairly re-civilised, if we may use such a term, and became a native interpreter. One result of his savage life was a great increase in his height, his stature in his later days being no less than six feet five inches.

Another famous case is that of James Davies, the Scotch blacksmith, who was transported in the Minstrel in 1824. He had been sent up to Moreton Bay, and absconded with a companion from Captain Logan's exploring party. His companion was killed for desecrating the graves of the natives, but

Davies ingratiated himself with one of the tribes and lived with them for fourteen years, returning to civilisation in 1842.

Morrill was seventeen years with the savages. He was one of the crew of the barque Peruvian, of Dundee, which, on the 8th of March, 1846, when commanded by Captain Pitkelly, on a voyage from China to Sydney, was wrecked on the Horseshoe Reef near Port Denison. The crew, twenty-two all told, escaped on a raft, and drifted about for forty-two days. Their sufferings were fearful, and only seven men survived to be washed ashore near Cape Cleveland. Of these, six shortly afterwards died, and Morrill was left alone. He joined the Blacks, and in January, 1863, made himself known to some North Queensland stockmen, by whom he was rescued. He did not long survive his release, and died at Port Denison, near which he had been wrecked, in October, 1865.

The discovery of the Brisbane River is due to another case of living with the aboriginals. On March 21st, 1823, Thomas Pamphlet, with three companions, Thompson, Parsons, and Finnegan, left Sydney in a coaster for Illawarra. They were blown out to sea by a sudden storm. On the sixteenth day Thompson died raving mad for want of water, and on the twenty-fourth they reached land. Thinking they were to the south of Sydney, they journeyed northward, and made their way to Moreton Bay, where, Parsons having died, Pamphlet and Finnegan spent five months with the natives. They were discovered by Oxley, in the Mermaid, on November 29th, 1823, and to him they gave the information as to the Brisbane.

This Mermaid was the Government cutter whose last crew met with such a succession of disasters on the 29th of October, 1829, when, under the command of Captain Nobrow, she was wrecked in Torres Straits. All on board were saved on the rock, and three days afterwards the Swiftsure, from Tasmania, under Captain Johnson, took them off. Three days after that the Swiftsure was wrecked, and the two crews were, after a few days had elapsed, picked up by the Governor Ready. Strange to relate, on May 18th the Governor Ready was wrecked, and the three crews betook themselves to the boats, to be picked up by the Comet. Their chain of misfortune was still incomplete, for in a few days the Comet was wrecked, and the four crews were saved by the Jupiter. Even this was not the end of their adventures, for the Jupiter came to grief at the entrance of Port Raffles Harbour, and the five crews had to get to land in boats. Perhaps the strangest thing of all was that not a life was lost in all these perils, and that all the five crews reached home safe and sound. The wreck of the Mermaid is almost worthy of a place amongst "The Great Shipwrecks of the World."

GO-BAN.

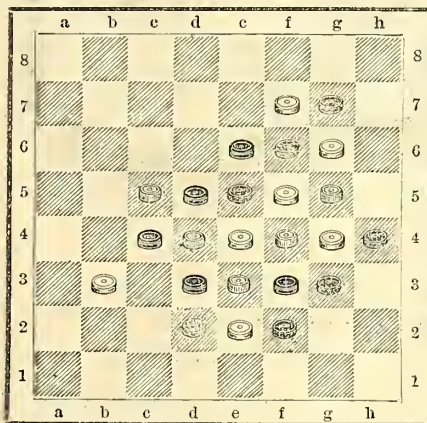
BY HERR MEYER.

(Continued from page 6.)

THE following two games were played on the 11th of last January between G. W. S. and H. F. L. M. :—

WHITE.	BLACK.
1. d 4.	d 5.
2. e 4.	e 5 (i).
3. f 4.	e 4 (j).
4. f 5.	e 6.
5. f 7 (k).	f 6.
6. g 6.	d 3.
7. g 4.	h 4.
8. g 5.	g 3.
9. e 3.	d 2.
10. e 5.	f 2 (l).
11. e 2.	f 3 (m).
12. b 3.	g 7 (n).

The men are now placed as shown in this diagram:—



Now the moving begins:—

13. b 3 e 3.
14. e 2 f 2.
15. f 2 e 2 (p).
16. e 5 d 5.
17. d 5 e 5.
18. f 7 e 7.
19. e 7 f 7.
20. e 2 d 2.
21. e 3 b 2.
22. g 6 g 7.
23. g 5 f 6.
24. g 7 f 8 = five.

NOTES.

(i) Experience has shown that it is best to occupy the central squares, for the men then have the greatest freedom of action.

(j) This move is necessary, for if Black had placed the man on e 5, White would have won by placing his next man on e 4 or g 4.

(k) He must block the line a 2 g 8, just as well as Black must now block the f file.

(l) The last six moves were all forced for Black.

(m) A weak move, which places the black men awkwardly. He would have done better to place it on b 3 in order to force the last white man to go to a 2, and then Black could have placed his last on e 3, and try to make a "five" in the a 5 e 1 or the a 6 f 1 or the c file.

(n) Necessary, for if placed on b 6 or a 5, White would have won thus:—g 6 g 7, f 6 g 6, g 5 f 6, followed by g 7 f 8.

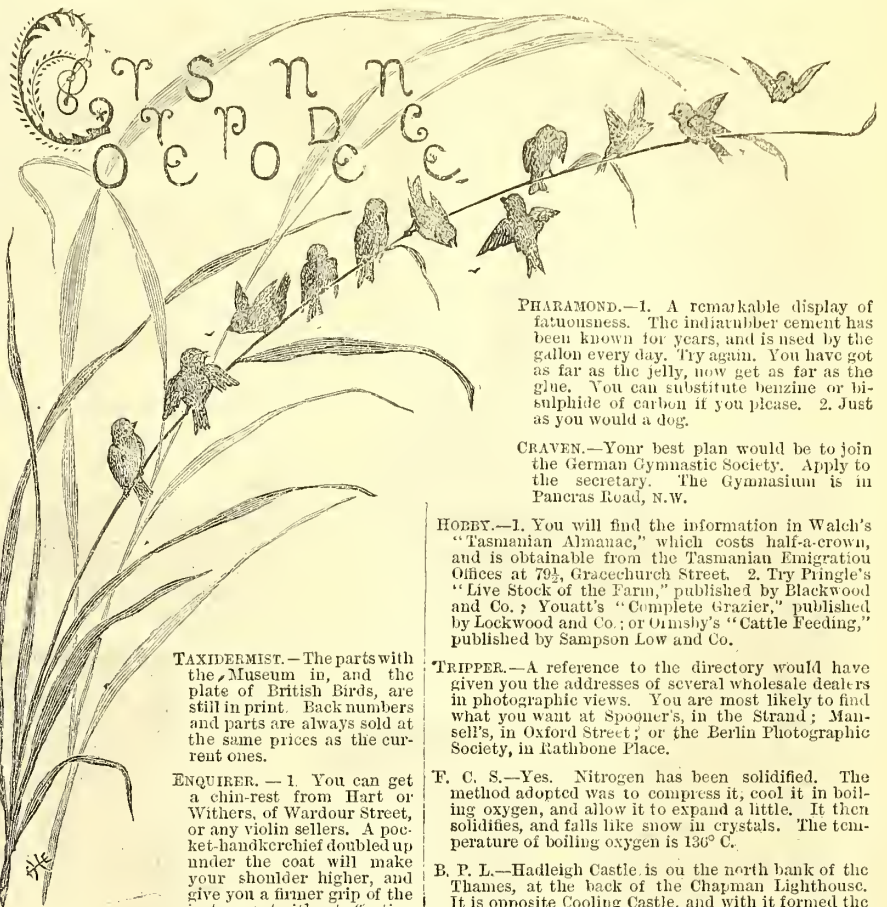
(o) Endeavouring to bring this man to the other side of the board.

(p) He is afraid of e 1 e 2.

(q) A bad move, for although he can block at h 6, he can afterwards not stop the g or f file. Black should have tried to move from e 6 to a 2.

(r) Must. White now wins easily, even if e 6 stood on e 7, for g 6 g 7, e 7 f 8, f 7 g 8, f 6 g 6, f 4 e 5, g 6 f 6 (else f 5 f 6), f 5 g 6.

(To be continued.)



TAXIDERMIST.—The parts with the Museum in, and the plate of British Birds, are still in print. Back numbers and parts are always sold at the same prices as the current ones.

ENQUIRER.—1. You can get a chin-rest from Hart or Withers, of Wardour Street, or any violin sellers. A pocket-handkerchief doubled up under the coat will make your shoulder higher, and give you a firmer grip of the instrument without affecting the tone. 2. We have no experience of wire firsts.

LEX.—Bedford's "Guide to the Preliminary Examination," price three shillings, can be had from most law booksellers. It is published by Stevens.

AN OLD SUBSCRIBER.—"My Friend Smith" will probably be published in due course in the "Boy's Own Bookshelf," but it will not be issued for some time.

J. W. SCADDING.—If you coat the drawing with collodion it will not smear.

W. J. PRICE.—1. The "Encyclopædic Dictionary" is a very full one of the ordinary type; the dictionary of the Philological Society is a work that has taken years to organise, and will take years to finish. It is of a different stamp from the other, and its publication forms an epoch in our literature; but it is quite beyond your requirements. There are to be six volumes, each of six parts, and each part will cost twelve shillings and sixpence. 2. The address is London.

CHERRY RIFE.—1. There is an Arequipa in Peru, with a population of 35,000. There is a volcano and a department of the same name in the same country. 2. For the Highland clans see our article in the part for March, 1883.

INQUIRER.—The "Nautical Almanac" is published by Mr John Murray, 50, Albemarle Street. It costs half-a-crown. It is always issued for the year in advance.

OLIVER.—1. The lower masts in clippers and steamers are now nearly always of iron or steel. 2. Of course, a yacht could be fitted with iron masts. Why not? They are lighter and stronger than wood. They are not solid, but tubular.

E. BRUNETTI.—The press of general correspondence prevents our answering without considerable delay. Your best course would be to advertise in one of the popular scientific papers, such as "Science Gossip," "Science Notes," "Science Monthly," etc.

SOUTH SEA ISLANDERS.—Scrape the cocoa-nut shells with glass, sandpaper them, and give them a coat of pale oak varnish.

T. G. C.—Two very different substances. Magnesite is carbonate of magnesia, colour white or greyish, with black markings; magnetite is protoxide of iron, colour black. Magnetite is the lodestone. The most powerful natural magnets come from masses in Siberia, Sweden, Elba, and the Harz. In New Zealand there is a magnetic iron sand.

JUMBO.—If you put the rose leaves into a glass bottle or jar, and fill it up with glycerine, the glycerine will extract the perfume, and give you something from which you can distil it.

PHARAMOND.—1. A remarkable display of fatuousness. The india-rubber cement has been known for years, and is used by the gallon every day. Try again. You have got as far as the jelly, now get as far as the glue. You can substitute benzine or bisulphide of carbon if you please. 2. Just as you would a dog.

CRAVEN.—Your best plan would be to join the German Gymnastic Society. Apply to the secretary. The Gymnasium is in Pancras Road, N.W.

HOBBY.—1. You will find the information in Walch's "Tasmanian Almanac," which costs half-a-crown, and is obtainable from the Tasmanian Emigration Offices at 79½, Gracechurch Street. 2. Try Pringle's "Live Stock of the Farm," published by Blackwood and Co.; Youatt's "Complete Grazier," published by Lockwood and Co.; or Ormsby's "Cattle Feeding," published by Sampson Low and Co.

TRIPPER.—A reference to the directory would have given you the addresses of several wholesale dealers in photographic views. You are most likely to find what you want at Spooner's, in the Strand; Mansell's, in Oxford Street; or the Berlin Photographic Society, in Rathbone Place.

F. C. S.—Yes. Nitrogen has been solidified. The method adopted was to compress it, cool it in boiling oxygen, and allow it to expand a little. It then solidifies, and falls like snow in crystals. The temperature of boiling oxygen is 136° C.

B. P. L.—Hadleigh Castle is on the north bank of the Thames, at the back of the Chapman Lighthouse. It is opposite Cooling Castle, and with it formed the first line of defence on the Thames. It was built by Hubert de Burgh in the reign of Henry III. The nearest station is Benfleet, or perhaps Leigh. The ruins are extensive, and several storeys of the main towers are still standing.

CRANK AND CHAIN.—All such information can be obtained from the cycling newspapers. We can hardly fill our columns with information that would be useful only to so few. Among the dangerous hills for cyclists that we have heard of are Hinton and Westcliff, in Kent; Hedon, in Buckinghamshire; Birdlip, Charlton Kings, Stanway, and Broadway, in Gloucestershire; Cam's Hill, near Hambleton; and Horu's Hill, near Soberton; Bury and West Harting Hills, near Arundel; and Bonchurch, in the Isle of Wight. A list of all such hills can be obtained from the Cyclists' Touring Club, who are gradually putting up notice-boards on the roads leading to them.

JONAH.—It is officially stated that an ordinary copy of the "Times" recently counted up contained 311,450 words. The printed surface takes up about seven square yards. The three hundred thousand words are said to be about as many as the poems of Homer and Milton make when added together.

LITTLE TOY-MAKER.—The red is cochineal, but you can stain any wood with aniline dyes, such as Judson's.

E. POULDEN.—Use the Willesden paper just as if it were thin wood; instructions as to building in wood will apply to it, with the difference that you are dealing with much wider surfaces. See our articles on boat-building.

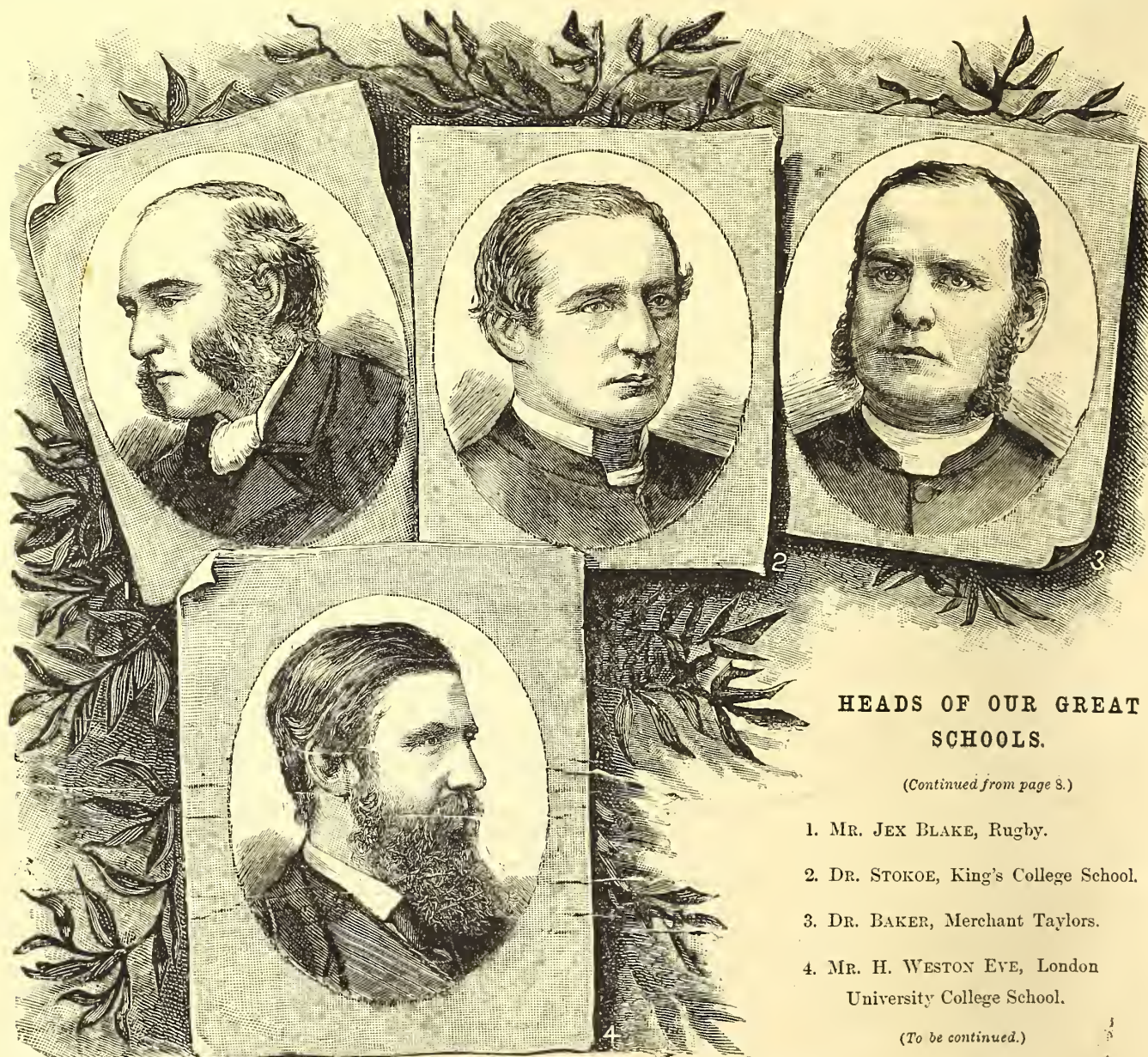
PRESTIGN.—1. Boats only require a licence when they ply for hire. 2. It is one of the old sports, of which so many were in vogue on Shrove Tuesday. Much was made of them, owing to their being prohibited during Lent. 3. Hands anywhere. You must stop the fall with your head if you cannot do so with your body.

RAGGED ROBIN.—The "expectation of life" of a puppy dog is about ten years.

C. W.—1. America was first found in historic times by Eric the Red, but of course it must have been known to man before then, or man would not have been found there when the "discoverers" arrived. 2. Yes, there are still Indians in America, but they are decreasing in numbers. There is a district specially reserved for Indian habitation.

FIERY BEACON.—Vol. I. costs six shillings, all the others cost seven shillings and sixpence. 2. Several excellent insect hunting grounds are in Surrey.

C. WILLIAM.—Transparencies are painted on stretched muslin which has been sized with gilder's size or gelatine. The size will slacken the muslin, and you must stretch it and size it again till you get it right.



HEADS OF OUR GREAT SCHOOLS.

(Continued from page 8.)

1. MR. JEX BLAKE, Rugby.
2. DR. STOKOE, King's College School.
3. DR. BAKER, Merchant Taylors.
4. MR. H. WESTON EVE, London University College School.

(To be continued.)

INCREDULOUS.—You mean the "electric salad"—with which, however, we are not practically acquainted. The directions were—"Immerse the mustard and cress seed in dilute oxymuriatic acid for two or three days, and then sow it in a very light soil; place over it a metallic cover, bring that in connection with an electric machine, and the plants will be ready for gathering in a few minutes." Why not try the experiment for yourself?

CONNECTING-ROD.—It is best to use a spirit-lamp for moveable models, and an air-burner for those that are stationary. Keep a string on your model during the trial-trip in case it should sink.

W. WILSON.—The ordinary graph mixture is one pound of gelatine, or one pound and a half of Scotch glue, soaked in water till it becomes flaccid, and then melted in a water-bath with six pounds of common glycerine, the heat being maintained for a few hours to drive off all excess of water. A water-bath is an ordinary gluepot, or any contrivance in which a jacket of water prevents the vessel containing your mixture from coming in direct contact with the fire. We have given several recipes in back numbers for graph composition. Here is one more. Twenty-six parts of water, fifteen of sulphate of barytes, six of gelatine, six of sugar, and thirty-six of glycerine. The ink is one part of aniline colours in seven parts of water and one of alcohol.

G. A. W.—Our competitions are open to every boy reader throughout the world.

WESTMENTUM.—1. Read "The Cricket Bat, and how to make it," in our fifth volume. 2. See the Cricket articles in the third volume. 3. Consult the advertisements on wrapper.

I. S. S.—To clean a smoky flue you might try burning a piece of zinc on the fire. The fumes will completely clear away the soot.

W. D. A.—There is no necessity to give yourself so much trouble in chipping out the glass. Give the putty a thick coat of soft-soap and leave it on for a day. It will soften so that you can easily cut it with your knife.

A. B.—1. Yes, there are forgeries of coins, but any one can copy a crest. 2. Buy one of our monthly parts and consult the advertisements on the wrapper. 3. The arms are borne on the shield; the crest comes over them.

FINEM.—You will find most of the information you want as to places of interest round London in the threepenny Saturday Half-Holiday Guide, published by Bemrose, of the Old Bailey. Ward and Lock and other publishers have "Greater London" guide-books, which would help you. An excellent map of the district was given away by Messrs. Cassell and Co. in their "Greater London."

THE SPIDER AND COPYING INK.—You will find a good "graph" mixture in No. 188, in September part for 1882; and in No. 265, in January part for 1883. Why not buy an index?

S. Y. L.—1. To whiten your skeleton and clean away the fatty emanations and disagreeable odour, rest the bones upon strips of zinc placed about an inch above the bottom of a glass jar, and fill it up with spirits of turpentine. The turpentine acts as an oxidising agent, and the product of the combustion is an acid liquor, which sinks to the bottom. 2. The "Boy's Own Museum" began in No. 91, and finished in No. 103.

A. BOVEY.—You will find technical treatises upon canals in the price-lists of either Lockwood and Co., of Stationers' Hall Court, or Spon, of Charing Cross.

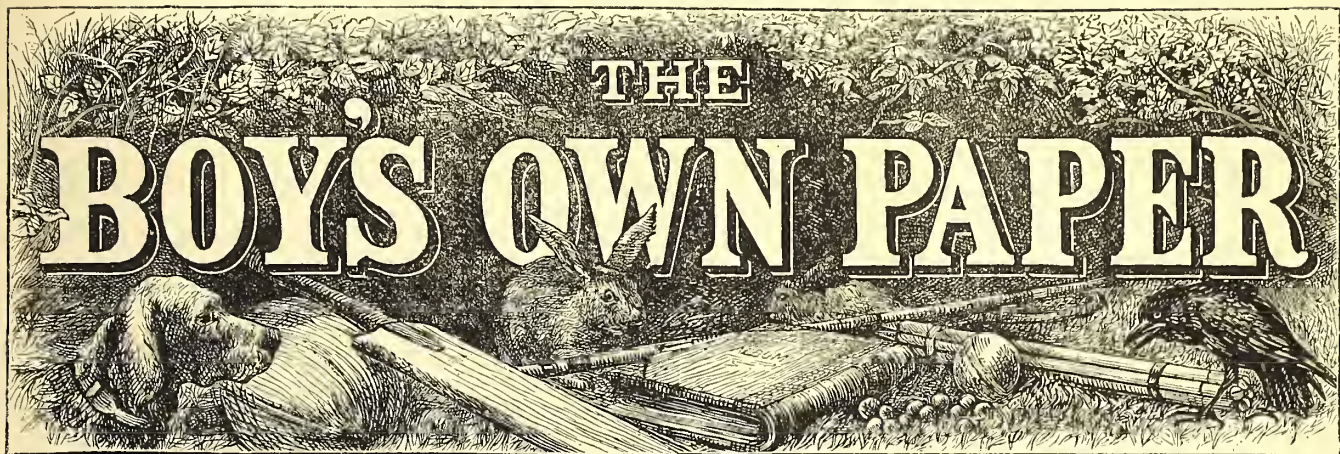
F. BAINBORROW.—The articles on "Signals at Sea" was in the November part for 1882.

G. A. R.—1. Wash the oilcloth clean with lukewarm water, using a large soft woollen cloth, dry it thoroughly with another soft cloth, and then polish it with milk, or a weak solution of beeswax and turpentine. Never use hot water, or soap, or a hard rag, or brush, or anything that will rub the paint off the pattern. 2. Paint on woodwork is best cleaned by a solution of a half-ounce of glue and a bit of soft soap as big as a walnut in three pints of warm water. Use a whitewash brush, and rinse with cold water and a wash-leather.

Our Portrait Gallery.

(Continued from page 8.)

THE portraits of the Heads of our Great Schools given in this week's number were engraved from photographs, as follows:—Mr. Jex Blake, of Rugby, from a photograph by Mr. C. Whetton, High Street, Rugby; Rev. Dr. Stokoe, of King's College School, from a photograph by Messrs. Elliott and Fry, Baker Street, London; Dr. Baker, of Merchant Taylors, from a photograph by the Stereoscopic Company, Cheapside, London; and Mr. Eve, of University College School, from a photograph by Mr. Barraud, of Oxford Street, London, W.



No. 301.—Vol. VII.

SATURDAY, OCTOBER 18, 1884.

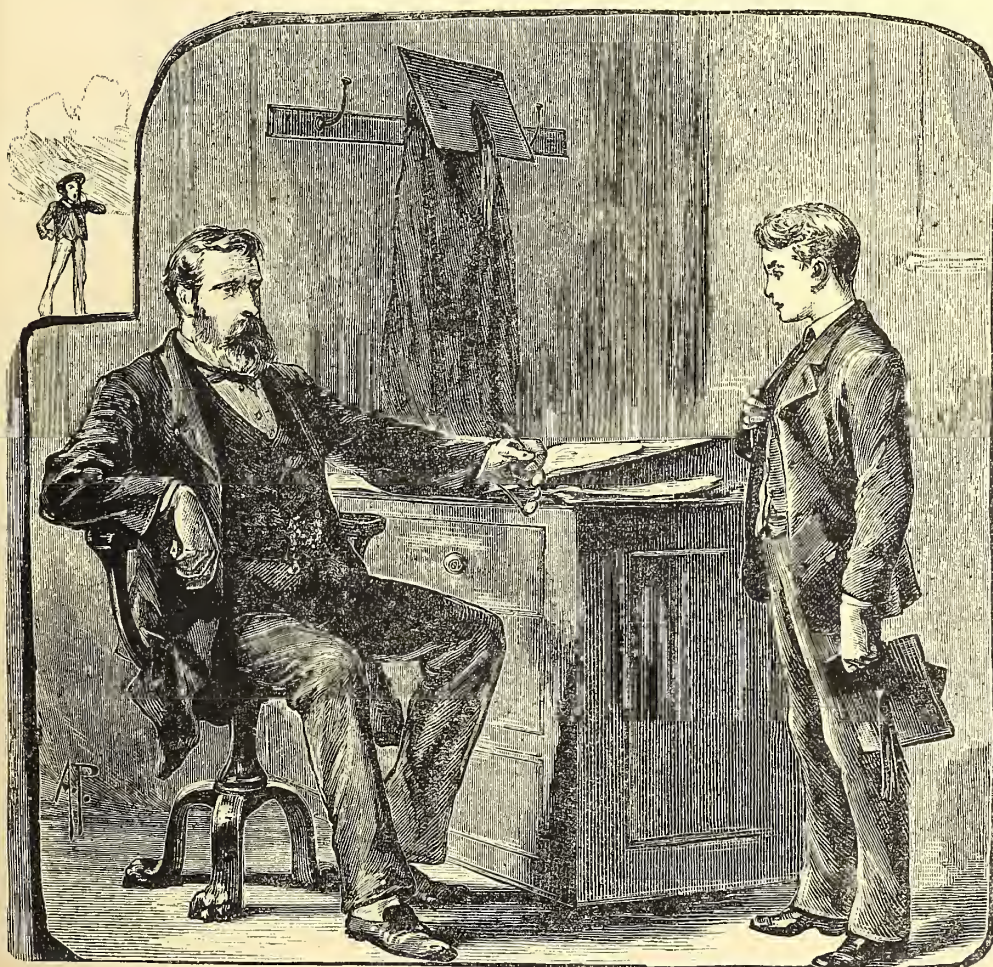
Price One Penny.
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SCHOOL AND THE WORLD:
A STORY OF SCHOOL AND CITY LIFE.

By PAUL BLAKE,

Author of "The Two Chums," "The New Boy," etc.

CHAPTER IV.



"Why have you been so long coming?"

SOADY was in a quandary. To a boy of such a communicative turn of mind it was absolute penance to have to be silent, and now he had a secret hidden in his breast which he was bursting to reveal. "I'll see Lang," he said to himself, "and find out if he did go to the Rum-

mage-room. But there! I know he did, so what's the good of asking? Why didn't he tell the Doctor? I know he didn't take anything."

At this moment Tommy appeared. Tommy was Soady's great friend, a youngster of the lower school who had

been put in Soady's charge by his parents, who knew something of him at home. Soady made Tommy his confidant and chum, and a queer pair they were. Tommy's surname was Scott, but as Soady always called him by his Christian name, the school followed suit.

It was a sore trial to Soady to think that here was Tommy, and yet he must not breathe a word to him.

"I'll walk away," thought Soady. "Perhaps he hasn't seen me; he'll think it rum if I don't stop if I see him, and if I do I shall tell him all about it, as safe as a gun."

So Soady turned away and walked in the opposite direction. But Tommy was not to be done.

"Hi! Soady!" he yelled.

But Soady was deaf to the voice of the charmer.

"Stop, you!" Tommy shouted; "I want you!"

"Catch me, Tommy!" shouted back Soady, who could not pretend to be deaf any longer. He ran off at a good pace, leaving Tommy panting in the rear.

"Stop!" he shouted, but in vain. Tommy was not cut out by nature for progress, so in a minute or so he subsided, Soady being far out of reach.

"What an ass he is!" soliloquised Tommy. "Won't I get into a shine, too! Here's Pickering sent me out to tell Soady the Doctor wants to see him, and I can't get near him! What possessed him to run away like that!"

When he had recovered his wind, off went Tommy again, soon catching sight of his quarry.

"Soady, Doctor wants you!" he shouted, as soon as he was within hearing.

"Can't hear!" returned Soady.

"Wait for me, then!"

"Can't! got an appointment with the dentist."

"Doctor wants you!" pumped out Tommy.

"Oh yes, Tommy! Don't you think you're going to catch me with that chaff! Good-bye!"

Off went Soady again, leaving Tommy the picture of disgust and despair.

"The Doctor can catch him himself if he wants him," he said, angrily. "What he wants to lead me a dance all over the field for this kind of day I don't know; he's generally down under a tree."

"What a persevering young beggar it is!" thought Soady, when he had placed

a good distance between himself and his pursuer; "that's the worst of chumming up with the little 'uns, they never leave you alone."

"Soady!" cried a voice in the distance, then another took up the cry.

"They seem to want me more than usual," thought Soady. "What's the row?" he shouted back.

"Doctor wants you!" was the reply.

For a moment Soady thought that this too was a hoax, but as he recognised Garland as one of the shouters the truth flashed across his mind. What a dolt he had made of himself! Tommy must have been sent out to fetch him.

He made very good time across the field, and reached the house panting. He had not recovered his breath by the time he reached the Doctor.

Mr. Pickering was there too. It struck Soady suddenly why he was wanted.

"Soady," said the Doctor, "why have you been so long coming? I sent for you nearly ten minutes ago."

"I was at the back of the field, sir, all alone."

The point was not pressed; fortunately for him, more important matters took its place.

"Mr. Pickering has just told me that you were in the music-room this afternoon during drill, and that you saw Lang come out of the Rummage-room."

"Yes, sir."

"You heard me ask this afternoon if any of you had been in there?"

"Yes, sir."

"Why did you not tell me then?"

"I hadn't been there, sir; and I thought that if Lang had, it was for him to say so."

It was a straightforward answer, and the Doctor made no attempt to argue the point.

"Did you see him go in and come out?" he asked.

Soady was glad he could answer this question with a clear conscience. Anything he might say now would serve to clear Lang, instead of implicate him.

"Yes, sir; he left the door wide open; he wasn't in there half a minute. He took a ball out of the long box and came out again straight, whistling."

Soady thought the last detail ought to tell, and so it did.

"You saw him the whole time?"

"Yes, sir, I was standing at the window."

As he said it he perceived he had let himself in for a reproof for wasting his time when he was supposed to be practising, but the opening was not taken advantage of by the Doctor.

"You can go," said the Doctor. "Lang does not know you saw him?"

"No, sir."

"Tell him to come to me, and don't mention the reason I want to see him."

Soady hesitated at the door, and then turned round.

"Please, sir, would you much mind if some one else told Lang you wanted him? He doesn't know I saw him, and I'd a great deal sooner he didn't if you don't mind."

The Doctor looked surprised.

"Very well; perhaps it might cause unpleasantness between you. I suppose you boys have the old ideas about sneaking. I will send some one else for Lang, and not mention you at all."

Soady was thankful, for he liked Lang, and was greatly afraid that if it got to his ears that he had told the Doctor of his visit to the Rummage-room it would cause a quarrel between them, however much he might protest his innocence.

"Jolly row he'll get into," thought Soady. "I'm glad I'm not in his shoes. It's the best way, after all, to speak out when there are awkward questions flying about; it saves trouble in the end."

Soady's motives were not very high ones, to judge from his talk, but they were higher than perhaps even he imagined. At all events, he was never known to tell a lie or do a mean trick, and traits such as these are very good indications of a sound character.

Next to his regret for the trouble Lang was in was his sorrow that for the present he must avoid Tommy. He must let at least a night go by before he could safely meet his young chum without letting out his secret.

(To be continued.)

OUR CRICKETING GUESTS.

(See the Coloured Plate.)

THE Australian visit of 1884 was in one sense the most successful we have yet been favoured with. Thanks to the glorious summer weather which gave us the best season since 1876, the matches aroused considerably more interest among the general public. They were almost invariably played on more heavily crowded grounds than in previous years, and owing to the long scoring frequently extended into the third day. In a purely cricketing sense, however, the success was not so great, for, although eighteen matches won and seven lost out of thirty-two is a very fair record, it does not come up to the level of any of the former travelling teams either to or from Australia. In 1882 thirty-eight matches were played and only four were lost, in 1880 thirty-seven matches were played and only four lost, and in 1878 only seven matches were lost out of forty-seven, as against the seven out of thirty-two of the current year. Figures, however, do not prove everything. In cricket relative calibre should never be overlooked. The 1878 matches were in most cases against teams greatly inferior in reputa-

tion to those against which the colonists had this year to contend, and although such matches as those against Liverpool and Leicestershire preclude the tour from being looked upon as exclusively first-class, yet its record is really better than that of 1878. All the same, it is by the statistics that the team will in future be judged, and these show unmistakably, all that has been said to the contrary notwithstanding, that the Austra-

lians of 1884 had gone off their 1880 and 1882 form, and did not reach the level of our champion county.

The relative merit of the English and Australian players can be seen at a glance by the tables of averages that follow side by side. One gives the batting averages of the Australians, the other that of the thirteen Englishmen who most frequently played against them.

AUSTRALIA.						ENGLAND.					
	No. of	No. of	Most	In Times			No. of	No. of	Most	In Times	
	Inns.	Runs.	Inns.	not out.	Av.		Inns.	Runs.	Inns.	not out.	Av.
W. L. Murdoch	50	1378	211	5	30.23	A. G. Steel	16	635	148	1	42.5
P. S. McDonnell	54	1225	103	2	23.29	Scotson	8	294	134	1	42
H. J. H. Scott	51	973	102	8	22.27	W. G. Grace	17	577	116*	2	38.7
G. Giffen	51	1052	113	1	21.2	Barnes	12	377	105	0	31.5
A. C. Bannerman	52	961	94	2	19.11	Barlow	15	336	101	3	28
G. J. Bonnor	52	937	95*	3	19.6	T. C. O'Brien	11	268	72	0	24.4
J. Midwinter	46	800	67	4	19.2	W. W. Read	12	284	117	0	23.8
J. M'C. Blackham	43	630	69	3	17.10	Lord Harris	13	214	69	1	17.10
G. E. Palmer	47	493	68*	10	13.12	A. P. Lucas	11	173	28	1	17.3
F. R. Spofforth	46	488	54	6	12.8	Shrewsbury	14	223	43	1	17.2
W. H. Cooper	9	33	8*	6	11	Ulyett	13	219	76	0	16.11
H. F. Boyle	38	262	48	14	10.22	Hon. A. Lyttelton	9	111	37	0	12.3
G. Alexander	5	26	10*	1	5	Peate	13	74	19	6	10.4

* Signifies not out.

And from these it appears that whereas the highest Australian average was 30 and the lowest 5, the highest English average was 42 and the lowest 10; and whereas the general average of the Australians comes out at 17, that of the Englishmen amounts to 25! Thus far as regards batting only; in bowling, however, the result is still more unexpected. Compare the averages of the eight Australian bowlers with that of the men who oftenest bowled against them.

AUSTRALIA.

	Overs.	Mdns.	Runs.	Wkts.	Aver.
F. R. Spofforth...	1561	646	2608	211	12.76
G. E. Palmer...	1230.1	452	2121	127	16.89
H. F. Boyle...	720	289	1132	67	16.60
G. Giffen...	827.3	284	1623	82	19.65
W. Midwinter...	268.2	116	440	15	29.5
G. J. Bonnor...	95	25	219	6	36.3
W. H. Cooper...	136	26	325	7	46.3
H. J. H. Scott...	56	9	157	5	52.1

ENGLAND.

	Overs.	Mdns.	Runs.	Wkts.	Aver.
Attewell...	287	171	292	31	9.13
Peate...	421.2	185	631	45	14.1
S. Christopherson...	260.1	126	416	26	16
Barlow...	284.3	139	414	24	17.6
Ulyett...	266.1	139	415	20	20.15
W. G. Grace...	390.2	131	514	24	21.10
Barnes...	202	103	280	11	25.5
A. G. Steel...	282.3	88	663	22	27.9

Here again the best English average is a long way better than the Australian, and the worst Australian is a long way worse than the English; while the general average of the Australians works out at 29, whereas that of the Englishmen is below 19!

Murdoch holds premier position amongst the batsmen, his average being only just a trifle under what it was in 1882. His chief effort was his great innings against England at the Oval, when he totalled 211—the same number of runs as Spofforth took wickets during the tour—and which proved his greatest score in England, except his 286 against Sussex in 1882. The English-born McDonnell comes next with 1,225 runs for 23, a great advance from the 17 of 1882, and the only advance in the team. The third place is held by Scott, who was new to English cricket; Giffen, the best all-round man in the team, coming fourth with 1,052 runs for 21, while all below him secure less than 20. In bowling Spofforth for the first time heads the averages, although his record 12.76 is the worst he has obtained in England. Palmer has 16 as against 11 in 1880 and 12 in 1882; Boyle has also 16 as against 10 in 1878, 7 in 1880, and 11 in 1882; Giffen has 19, and all below him exceed the 20. Before we dismiss the individual performances we may note that five scores over a hundred were made for the visitors—two by Murdoch, the 211 already noted and 132 against Cambridge University, and one each by Giffen, McDonnell, and Scott, for 113, 103, and 102, against Lancashire, England, and England respectively. Here, again, however, the luck went against them, for to their five the Englishmen scored twelve—three being made by Dr. W. G. Grace, one for 116 not out for Gloucestershire, one for 107 for the Gentlemen, and one for 101 for M.C.C. and Ground; two by Mr. A. G. Steel, one of 148 for England and one for 134 for M.C.C. and Ground; and one each by Barlow for the North, by Barnes for M.C.C. and Ground, by Mr. Brain for Gloucestershire, by Phillips for Sussex, by Mr. Read for England, by Scotton at Huddersfield, and by Mr. Wyatt for Sussex. Of ciphers of another sort, the Australians are credited with sixty-nine duck's eggs—Spofforth claiming eleven of them—and amongst them were three pairs of spectacles, one each for Bonnor, Boyle, and Blackham. The bowling drawbacks were also unusually high, the no-balls amounting to twenty-seven—Spofforth claiming fourteen of them—and the wides amounting to thirteen.

Of the eleven representative matches, five were won—the two against the Players, the

two against the South, and one against the Gentlemen; two against England were drawn; and four—one against England, one against the Gentlemen, and two against the as yet undefeated North—were lost. Of the twenty-one other matches, thirteen were won, five were drawn—only one, however, in favour of the Colonists—and three—those against M.C.C. and Ground, Kent, and Oxford University—were lost. The scores in each case are given in full in the following table of the

RESULTS OF MATCHES.

Matches played, 32; won, 18; lost, 7; drawn, 7.

May 12 and 13, at Sheffield Park, Sussex, v. Lord Sheffield's Eleven.—The Australians, 212. Lord Sheffield's Eleven, first innings, 86; second innings, 120. The Australians won by an innings and six runs.

May 15, 16, and 17, at Oxford, v. Oxford University.—The Australians, first innings, 148; second innings, 168. Oxford University, first innings, 209; second innings, 110 for three wickets. Oxford University won by seven wickets.

May 19 and 20, at Kennington Oval, v. Surrey.—The Australians, first innings, 195; second innings, 48 for two wickets. Surrey, first innings, 97; second innings, 144. The Australians won by eight wickets.

May 22 and 23, at Lord's, v. M.C.C. and Ground.—The Australians, first innings, 184; second innings, 182. M.C.C. and Ground, 481. The M.C.C. and Ground won by an innings and 115 runs.

May 26, at Birmingham, v. an England Eleven.—The Australians, first innings, 76; second innings, 33 for six wickets. The England Eleven, first innings, 82; second innings, 26. The Australians won by four wickets.

May 29, 30, and 31, at Lord's, v. the Gentlemen of England.—The Australians, first innings, 135; second innings, 260. Gentlemen of England, first innings, 277; second innings, 129 for six wickets. Gentlemen of England won by four wickets.

June 2 and 3, at Derby, v. Derbyshire.—The Australians, 273. Derbyshire, first innings, 106; second innings, 127. The Australians won by an innings and 40 runs.

June 5, 6, and 7, at Manchester, v. Lancashire.—The Australians, first innings, 174; second innings, 315. Lancashire, first innings, 195; drawn owing to rain.

June 9 and 10, at Bradford, v. Yorkshire.—The Australians, first innings, 60; second innings, 68 for seven wickets. Yorkshire, first innings, 55; second innings, 72. The Australians won by three wickets.

June 12, 13, and 14, at Nottingham, v. Nottinghamshire.—The Australians, first innings, 131; second innings, 179 for seven wickets. Nottinghamshire, first innings, 170; second innings, 138. The Australians won by three wickets.

June 16, 17, and 18, at Cambridge, v. Cambridge University.—The Australians, 378. Cambridge University, first innings, 204; second innings, 93. The Australians won by an innings and 81 runs.

June 19 and 20, at Manchester, v. the North of England.—The Australians, first innings, 91; second innings, 107. The North of England, 220. The North of England won by an innings and 22 runs.

June 23 and 24, at Liverpool, v. Liverpool and District.—The Australians, first innings, 140; second innings, 128 for nine wickets. Liverpool and District, first innings, 213; second innings, 54. The Australians won by one wicket.

June 26, 27, and 28, at Kennington Oval, v. the Gentlemen of England.—The Australians, first innings, 229; second innings, 219. The Gentlemen of England, first innings, 261; second innings, 141. The Australians won by 46 runs.

June 30, July 1 and 2, at Sheffield, v. the Players of England. The Australians, first innings, 189; second innings, 178 for four wickets. The Players of England, first innings, 230; second innings, 134. The Australians won by six wickets.

July 3, 4, and 5, at Huddersfield, v. an England Eleven.—The Australians, first innings, 175; second innings, 124 for seven wickets. The England Eleven, 453. Drawn, owing to rain.

July 10, 11, and 12, at Manchester, v. England.—Australia, first innings, 182. England, first innings, 95; second innings, 180 for nine wickets. Drawn.

July 14 and 15, at Leicester, v. Leicestershire.—The Australians, first innings, 175; second innings, 33 for no wicket. Leicestershire, first innings, 143; second innings, 64. The Australians won by ten wickets.

July 17 and 18, at Lord's, v. Middlesex.—The Australians, 188. Middlesex, first innings, 53; second innings, 106. The Australians won by an innings and 29 runs.

July 21, 22, and 23, at Lord's, v. England.—Australia, first innings, 229; second innings, 145. England, 379. England won by an innings and five runs.

July 24, 25, and 26, at Brighton, v. Sussex.—The Australians, first innings, 309; second innings, 144. Sussex, first innings, 396; second innings, 25 for four wickets. Drawn.

July 31 and August 1, at Kennington Oval, v. the Players of England.—The Australians, first innings, 151; second innings, 28 for one wicket. The Players of England, first innings, 107; second innings, 71. The Australians won by nine wickets.

August 4, 5, and 6, at Canterbury, v. Kent.—The Australians, first innings, 177; second innings, 109. Kent, first innings, 169; second innings, 213. Kent won by 96 runs.

August 7, 8, and 9, at Clifton, v. Gloucestershire.—The Australians, 314. Gloucestershire, first innings, 301; second innings, 230 for two wickets. Drawn.

August 11, 12, and 13, at Kennington Oval, v. England.—Australia, 551. England, first innings, 346; second innings, 85 for two wickets. Drawn.

August 13, 19, and 20, at Cheltenham, v. Gloucestershire.—The Australians, 402. Gloucestershire, first innings, 183; second innings, 83. The Australians won by an innings and 136 runs.

August 21, 22, and 23, at Nottingham, v. Nottinghamshire.—The Australians, first innings, 265; second innings, 141. Nottinghamshire, first innings, 273; second innings, 15 for one wicket. Drawn.

August 25, 26, and 27, at Brighton, v. Cambridge University Past and Present.—The Australians, first innings, 190; second innings, 180. Cambridge University Past and Present, first innings, 135; second innings, 93. The Australians won by 142 runs.

August 28 and 29, at Gravesend, v. the South of England.—The Australians, 358. The South of England, first innings, 178; second innings, 73. The Australians won by an innings and 107 runs.

September 1, 2, and 3, at Nottingham, v. the North of England. The Australians, first innings, 100; second innings, 76. The North of England, first innings, 91; second innings, 255. The North of England won by 170 runs.

September 4, 5, and 6, at Scarborough, v. I Zingari.—The Australians, first innings, 223; second innings, 139 for two wickets. I Zingari, first innings, 229; second innings, 140. Australians won by eight wickets.

September 10 and 11, at Kennington Oval, v. South of England.—The Australians, 163. South of England, first innings, 56; second innings, 102. The Australians won by an innings and five runs.

(To be continued.)

OUR HOME FORCES.

BY ROBERT RICHARDSON, B.A.

WHAT ho! our own home forces—

Just seven soldiers strong,
With Harry Holt their captain,
And Frank his aide-de-camp,
They thunder forth their orders
With such a martial air,
The miller at his doorway
Looks up to smile and stare.

Philip's their standard-bearer,
The drummer-boy is Jack;
At flourishing the drum-sticks
He has the prettiest knack.
There never was a drummer,
Since first the art began,
Could beat like Johnny Armstrong
So brave a rataplan.

Heads up, eyes front, and forward,
Along the sunny street;
The smooth old stones re-echo
The trampling of their feet.
With what a patriot ardour
Each loyal bosom glows;
They're ready at this moment
To meet their country's foes.

They're sorry that they live in
Such piping times of peace,
When nought more warlike meets them
Than old Dame Dawson's geese.
Oh! blithe and merry England
Is safe for evermore,
While she has trusty soldiers
Like these to guard her shore:

THE STAR OF THE SOUTH:

A TALE OF THE DIAMOND FIELDS.

BY JULES VERNE,

*Author of "The Boy Captain," "Godfrey Morgan," "The Cryptogram," etc.*CHAPTER II.—TO THE DIAMOND FIELDS (*continued*).

THE days went by and the miles were slowly rolled off. Sometimes the horses would cover the ground in fine style, at others it seemed impossible to move them. Little by little the journey was completed, and one fine day the coach reached Hopetown. Another stage and Kimberley was passed. Then a few wooden huts appeared on the horizon.

It was New Rush.

There the diggers' camp differed but little from the temporary towns which spring from the ground as if by enchantment in all new countries—wooden huts of no great size and roughly built, a few tents, a dozen coffee bars or canteens, an alhambra or dancing saloon, several

tables and patent medicines, wheel ploughs and toilet soaps, hair combs and condensed milk, frying-pans and cheap lithographs—everything, in short, but buyers.

For the whole population of the camp was now at work at the mine, which is about a quarter of a mile from New Rush.

Cyprien, like the other fresh arrivals, hastened off thither, while dinner was being got ready at the Continental Hotel.

It was about six o'clock in the afternoon. Already the sun had begun to veil the horizon in a thin cloud of gold. Once again the engineer noticed the enormous apparent diameter assumed by

for Cyprien awaited him at the Kopje, that is to say, at the diamond diggings.

Before the opening of the works the site of the mine was an elliptical knoll, the only elevation in a plain as level as the sea. But now an immense gap with sloping sides, a sort of circus, oval in form and about forty yards across, had taken the place of the hill. The surface was cut up into three or four hundred "claims" or concessions, each thirty-one feet long.

The ground, consisting chiefly of reddish sand and gravel, was being excavated by pickaxe and spade and sent to the surface. Thence it was taken to the sorting tables to be washed, crushed, sifted, and finally examined with extreme care to see if it contained any of the precious stones.

The claims, having been excavated independently of each other, formed ditches of varying depths. Some went down for a hundred yards or more, others for thirty, twenty, or even fifteen. To give room for working and intercommunication, each holder is officially required to leave untouched on one of the sides of his claim a space of seven feet. This space, with that left by his neighbour, serves as a sort of gangway or embankment flush with the original level of the ground. On it joists are placed so as to overhang the claims for about a yard on each side, and by this means sufficient width is obtained to allow a couple of carts to pass abreast.

Unfortunately for the solidity of this hanging way and the safety of the miners, the holders of the claims gradually work in as the wall goes down, and as in some cases the depth is two or three hundred feet, the result is that the partition becomes a reversed pyramid standing on its apex. The consequences can be guessed. The walls fall in, particularly during the rainy season, when owing to the abrupt changes of temperature the surface is seamed with cracks and the sides split off along them. Nevertheless the periodic recurrence of these disasters has no effect on the miners, and they persist in excavating their claims up to the very farthest limit of the dividing line.

As Cyprien approached the mine he could see nothing but the carts moving about on the hanging roads, but when he had got near enough to peer into the depths of the curious quarry he beheld a busy crowd of diggers of every nation, every colour, and every costume at work in the claims. Negroes and whites, Europeans and Africans, Mongols and Celts—most of them in a state of semi-nudity, or wearing cotton drawers, flannel shirts, and straw hats decked in many instances with ostrich plumes.

All were engaged in transferring the soil into leather buckets and sending them to the bank along wire ropes by means of cowskin halliards working over drums of open woodwork. There the buckets were emptied into the carts and



New Rush.

"stores," and the usual Johnny-all-sorts shops.

In the shops were clothes and furniture, boots and glasses, books and saddles, weapons and drapery, brushes and brooms, blankets and cigars, green vege-

the sun as well as the moon in these latitudes, a phenomenon of which no sufficient explanation has yet been advanced—the said diameter being about double as large as in Europe.

But a spectacle of much greater novelty

then sent down to the bottom of the claim to be returned with a fresh load.

These long iron ropes stretched diagonally across the rectangular chasms give a peculiar look to all dry diggings or diamond mines, and resemble the threads of a gigantic spider's web whose weaving has been suddenly interrupted.

For some time Cyprien amused himself with contemplating this human ant-hill. Then he returned to New Rush, where the dinner-bell rang almost immediately after his arrival. There during the evening he had the pleasure of hearing of the wonderful finds that had been made, of miners poor as Job suddenly becoming rich men by finding a solitary diamond, of others ever down on their luck, of the greed of the brokers, of the dishonesty of the Kaffirs employed in the mines who stole the best stones, and of many other technical matters. The talk was of nothing but diamonds, carats, and hundreds of pounds.

Every one seemed the picture of misery, and instead of the happy digger noisily calling for his champagne to wet his luck, there were a dozen lanky long-faced fellows drinking nothing but small beer.

Occasionally a stone would be passed round the table to be weighed, examined, valued, and returned to its owner's belt. That dull greyish pebble, with no more sparkle than a fragment of quartz rolled in a torrent, was a diamond in its gangue!

At night the coffee bars filled, and the same conversation, the same discussion which had occupied the dinner-hour, began again.

Cyprien went to bed early in the tent next to the hotel which had been assigned to him. There he soon fell asleep, despite the noise of a ball in the open air among the Kaffir diggers close by, and the piercing brays of a B-flat cornet from a neighbouring dancing saloon in which the whites were amusing themselves with a few energetic lessons in choreography.

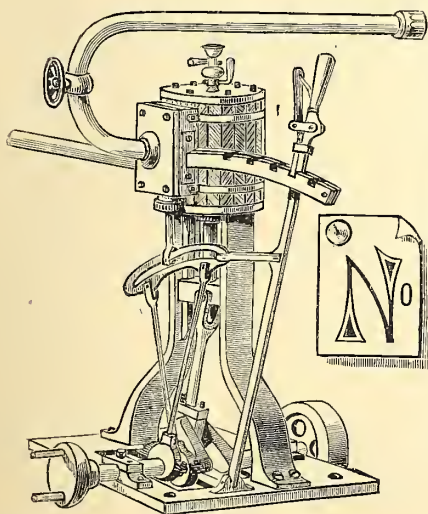
(To be continued.)



Transferring the soil into leather buckets.

THE "BOY'S OWN" MODEL LAUNCH ENGINE.

By H. F. HOEDEN.



doubt many admirers of the ever-popular Boy's Own Paper have commenced ere now building a marine engine for themselves, or have had serious thoughts of doing so, since reading the interesting illustrated articles on the subject by Mr. Chasemore

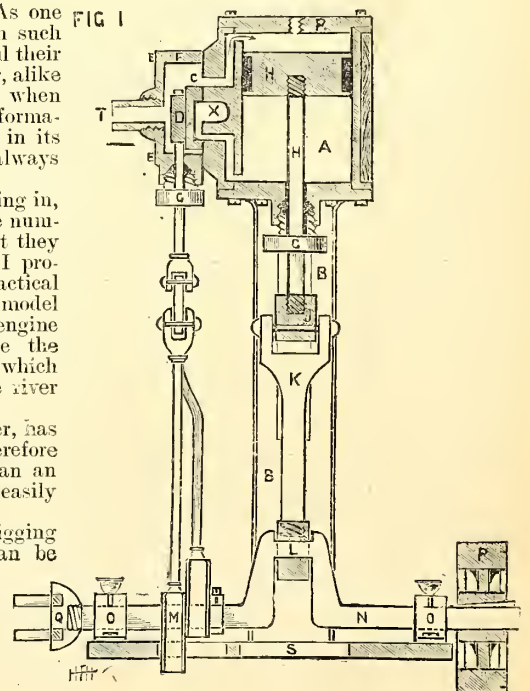
that appeared in the last volume. As one who has had considerable experience in such matters, I am sure they could not spend their spare time in a more profitable manner, alike as regards the value of the engine when made, and the amount of practical information they can pick up whilst employed in its construction—information that will always be useful to them in after life.

Now that the long evenings are setting in, and knowing too that there are a large number of boys who like to make the best they can of anything they take in hand, I propose in this article to give a few practical hints showing how to build a perfect model of an inverted-cylinder direct-action engine with link-motion reversing gear, like the sketch at the beginning of this paper, which represents a type in daily use on the river and sea.

Such a model, having a fixed cylinder, has not the friction of other types, and therefore it gives more power, size for size, than an oscillating engine, and does not get so easily out of order.

I will give, too, instructions as to rigging up the pumps, so that the engine can be conveniently worked for any length of time required; and will supplement this with a sketch of an injector for filling the boiler, an arrangement that saves a great deal of friction in the engine.

FIG 1



And now to my pleasant task.

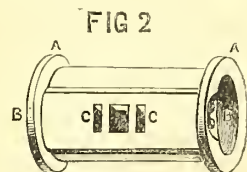
You must of course have a lathe, which I will therefore suppose you to possess; but should there not be a slide-rest to it you must get the cylinder bored by a professional turner, for which he will charge about two shillings, according to the size of your castings.

Let me first briefly explain the action of the steam in the engine by a diagram (Fig. 1).

The cylinder A is bolted into the standard, B; the ports or steam-passages are shown at C; and the slide-valve that allows the steam to pass alternately to each side of the piston is marked D, in its case E. G G are the stuffing-boxes, which have to be packed with lamp-cotton greased to make them steam-tight. H is the piston, with its rod finishing in a crosshead J, which is cut with a groove to slide up and down the standards to guide it and prevent the piston-rod being bent out of shape. K shows the connecting-rod, attached at its lower end to the crank L. M is one of the eccentrics working the slide-valve. N is the main shaft, resting on the plummer blocks O O, having a heavy fly-wheel at P and the coupler at Q. R is the top cylinder plate, drilled to screw in the grease-cock, of which I will presently give a drawing on an enlarged scale. S is the bed-plate, T the steam-supply, and X the exhaust.

You will observe that the steam is coming in at the top of the cylinder, through the top port, as shown by the arrow, pressing the piston down and allowing the waste steam that has already raised the piston to escape through the lower port, and so into the exhaust. By that time the slide-valve is raised (by the eccentric) sufficiently to cut the steam off from the top port, which by that means is in its turn put in communication with the exhaust, and allows the steam to pass out of the top part of the cylinder, whilst it admits it to the lower portion, and so on alternately.

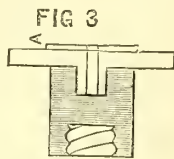
And now to the practical work. After having the cylinder bored, as already mentioned, get a piece of oak or other hard wood



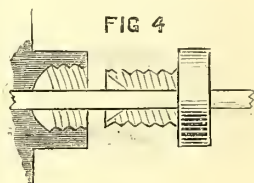
1½ in. square and about 6 inches long. Turn one end of it in the lathe, so that it fits the inside of cylinder, and drive it on. Then put it in the lathe again, and turn the

flanges A (Fig. 2) down, and be very careful that they are quite true and square.

The top and bottom cylinder-covers, with the stuffing-box, come next. Screw a piece of hard wood on the end of your lathe mandrel, turn it down to about a quarter of an inch less in diameter than the flanges of your cylinder, make a small hole for the stuffing-box to be driven in, as in Fig. 3. You can



now turn the edge and side—that next the cylinder. The projecting part A is to be the exact size of the diameter of cylinder. When this is done, take it out and place it in another chuck, and drill and turn the stuffing-box out, and screw it to receive the gland (Fig. 4).

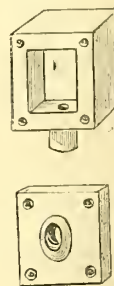


Now chuck the top cover and turn it down to size. The piston is a casting, and has to be turned in the lathe to fit the cylinder, and a groove run round it to hold the greased cotton to make it steam-tight. Whilst in the lathe drill a hole in the centre, and tap it to receive the piston-rod, which you can make out of steel wire. Then pass one end through the stuffing-box on cylinder-cover and screw it on the crosshead J (Fig. 1), having first filed it up quite square and true and finished it off with emery. Now take the standards B (Fig. 1), and finish them up with a file in the same way, and be careful that the insides forming the guides for crossheads are quite true. We can now make the lagging for cylinder. Get a piece of mahogany the length of the outside circumference of cylinder and the width of the distance between flanges of same. Then plane it down to about an eighth of an inch and score it with a penknife every eighth of an inch down its width; it will then bend round the cylinder, and you can fasten it on by a couple of brass bands, screwing the ends down near the slide-valve case.

We will next tackle the steam-ports in the cylinder BB (Fig. 2). They are simply two holes drilled side by side until they reach the openings CC (Fig. 2) in the casting; they must not be drilled any farther.

Now place the ends on cylinder and drill through them so as to screw them on to the flanges. The slide-valve case is a casting with separate lid (Fig. 5), and has to be faced up

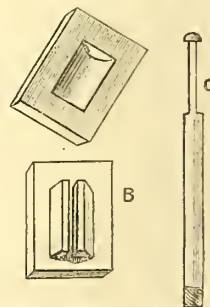
FIG 5



with a file, and four holes drilled through the lid and corners to screw on to the cylinder face. The boss on lid must now be drilled and tapped for steam-pipe to be screwed in.

The slide-valve itself is like Fig. 6, has a

FIG 6



hollow east in its face, and a small projection on the back (B), which you must make a narrow groove in with a saw, and file the end of the valve-rod down to fit it, as shown at C, Fig. 6.

The face of the cylinder and also of the slide-valve must now be made to work steam-tight by rubbing on a perfectly flat stone until true, and then putting some emery and oil on a board and working them up until they are quite true.

(To be continued.)

ONE OF MOTHER CAREY'S CHICKENS.

BY THE REV. A. N. MALAN, M.A., F.G.S.,

Author of "Cacus and Hercules," "A Dunce's Disasters," "The White Rat," etc.

CHAPTER III.

"WELL, now, if that ain't enough to drive one mad!" exclaimed Mother Carey as her husband came in to his dinner the day after the Dumpling's last visit to the old willow-tree.

"There's the rascally old hen been a-cackling again, John. She's a-cackled four days running, and where she's hidden the eggs I don't know."

"Very strange, to be sure, missus," said John as he took his seat at the table.

"I've seen her with the rest, as innocent as a babe, a score of times, and how she continues to bamboozle us I can't say."

"It's a myth and a tragical story, John, and I can't make out the pros and poffs of it," rejoined his wife, who was rather proud of her power of language.

John now turned his attention to dinner, and when it was over he lit his pipe and sat down in the chimney corner to ponder on the vagaries of poultry in

general, and the impertinence of this Cochon China hen in particular. His meditations were broken by a rat-tat-tat at the door.

The Dumpling rolled in.

"I say, Mother Carey, could you lend me a dish? Do. I'll take care not to break it. Oh, I say! what a nice smell of dinner! Wish you had invited me. Expect you had something better than everlasting beef and stickjaw. Hulloo!

John, I'll bring you back some bacey next term; better than that old cabbage stuff you're smoking there."

"Thank you, sir. Mother, lend Master Bertram a dish."

The Dumpling looked round the kitchen, and espied a large yellow earthenware basin.

"That's the very thing, mother. I'll take great care of it."

"Well, sir, mind you bring it back."

"All right; thanks."

The Dumpling went off with it. As soon as he was outside the cottage-door he put the dish on his head and his cap on the top, and made for the wood-yard, whistling as he went, his trusty club "dealing destruction's devastating doom" along the path wherever anything capable of receiving damage presented itself within range.

And so we find him, as we left him at the close of the last chapter, with jacket off, succinct and expedité for the important task before him.

He worked away with zeal, and his eyes sparkled as he mixed the brandy and beer with the yolks of the eggs, and flogged up the whites with a wisp of an old broom. He was tempted to taste the mixture—but no; by a powerful effort he restrained his appetite, for he wished to inform his boon companions that he hadn't had one mouthful unfairly, thereby to raise himself still further in their estimation.

The dainty dish was at last finished to his satisfaction, and certainly presented a pleasing appearance. The strawberry-jam, with the rich sauce, looked rapturously inviting under the snowy mountain which towered so majestically above it.

The Dumpling eyed his masterpiece with a soft approving smile, and turned his head sideways right and left to contemplate the dish in all its aspects, and there was a sense of unqualified complaisance in his heart.

The bell for changing boots at length broke harshly on his ear, and reluctantly consigning the trifle to the recesses of the old tea-chest, he rolled down his sleeves, put on his jacket, and joggled off to the house.

It was not to be expected that much work was to be got out of him that afternoon. His intellect was absorbed in one line of thought, and no allurements of Euclid or Colenso could avail to draw it in another direction. The circles in the figures looked liked dishes, and he sighed for the hours to fly.

Though time waits for no man, its moments often linger unpleasantly for boys, and it seemed an age to the Dumpling before the opportunity arrived for displaying the triumph of his skill to his admiring clients. However, the hands of the clock did at last point to half-past six. Tea was finished. Each member of the secret society had purloined a mug and spoon in accordance with the directions of the president; and each, at wide intervals apart, like the Plateans in their sortie during the famous siege, prepared to wend his way to the trysting-place appointed for the orgies.

It was a clear frosty evening. A full moon rode triumphant in the sky. The Jolly Guzzlers had to be careful in picking their way under shadows of walls and trees, for boys were not supposed to be out after tea, and many windows overlooked the ways to the wood-yard.

Buffles was first to arrive, having performed his journey without danger.

Stodge had started next, but was delayed on the road, for at the outset, while scurrying across a moonlit space, he had heard a window open and a voice which no boy could mistake had called out, "Hullo! who's that?"

Stodge decided that such a question was not worth answering, and had dived into the shadows of a laurel clump, where he crouched for a while before making a dash across some more open ground.

The voice was indeed that of Doctor Porchester, who had been talking to old Carey about putting some hay-ropes round some exposed water-pipes to prevent them bursting by the frost. The Doctor had gone to the window of his study to make meteorological observations as to the probability of severe cold that night, and his eagle eye had espied the form of a boy flitting past.

And so the window had been opened, and the words uttered in a severe tone.

Not receiving any answer, and being aware that the suspicious form had vanished into darkness, the Doctor had said to his trusty servant, "John, just go and see who that was, and what mischief he's up to, and don't forget the pipe that supplies the fountain."

Now, old Carey was good at woodcraft, and knew well enough how to stalk a boy. He had already made his own private observations, being naturally of an inquisitive nature, and anxious in this instance to ascertain the object for which his yellow dish had been borrowed. He had taken a sly peep out of his cottage window, and watched the Dumpling enter the wood-yard, and when he went to fetch the boots that afternoon he visited the yard and just "prospected" a bit, and it did not need much ingenuity to discover the dish. Old Carey opened his eyes, and said, "Who'd a thought it?" and indulged a long, low, chuckling laugh as he surveyed the confection, for truly it presented a most enticing aspect, and he could not but admire the culinary skill displayed.

Therefore, when the Doctor bade him go forth upon his errand, old Carey put two and two together, and, having discovered that they made four, he laid his plans accordingly. Proceeding by a route apparently contrary to all rules of warfare, being distinctly in an opposite direction to that of the enemy, John Carey went down the playground and into the field. He even walked to the extreme end, turned half-left, and skirted the wall, which manœuvre brought him under the massive shadow of some ancient ilex-trees. Turning half-left once more, he swiftly stepped out the distance intervening between himself and the vicinity of the wood-yard.

By this masterly stratagem he reached a long red-tiled and ancient stable flanking the yard. Noiselessly opening a door at the farther end, he entered, and passing along, he posted himself opposite a window looking into the yard, a pane of which was broken. Kneeling down at that spot he could not only see all that went on in the wood-yard, but also hear every word that might be spoken by any persons present therein, being himself meanwhile in safe concealment. To him, then, I am indebted for the information contained in the remainder of this chapter.

He saw Buffles and Stodge seated on two stumps of trees, holding converse together.

"I say, Buffles, I had a terrible shave of being caught. Old Poco saw me from his study window and halloed out, 'Who's that?' I was in an awful funk, and dodged behind the laurels. He couldn't have seen who I was."

"What an ass you were to go that way!"

"Well, Dumpling told us to go different ways, and none of you fellows would dare to go through the garden. I'm not half such an ass as you."

"Yes you are. Dumpling says you're the greatest ass in the school. Hark! here comes some one."

The door of the wood-yard was cautiously opened, and in stole Grubblins. Guzzling Jim soon followed.

"Hullo, you fellows; it's all right. The President will be here in a jiff. I saw him start. He's coming down the playground."

A minute more and the President's heavy tread was heard outside.

The four subordinates rose to receive him, each with mug and spoon in hand.

Now nothing could have been easier than for the Dumpling to open the door and come in like the other boys had done. But his waggish nature prompted a more difficult method. I remember, at a circus, seeing a clown take up one of those paper hoops through which a fairy equestrian had just bounded. The clown held it out and jumped into it; and in order again to extricate himself he went through a series of the most difficult and ludicrous movements, twisting himself into inconceivable attitudes; whereas, had he been so minded, he might have stepped out as easily as he stepped in.

Some such clownish intention evidently filled the Dumpling's mind. For with prodigious exertion he climbed to the top of the black boarding that formed the barrier of the wood-yard, and reared his gigantic form into prominent view. There he sat grinning.

"Hullo, you chaps; you're all here, I see. Now let me show you an acrobatic performance, just to whet your appetites."

There was an old tree leaning against the fence, amid a heap of faggots, a broken-down wheelbarrow, a wooden tub for catching rain-water, and a nondescript accumulation of lumber.

The Dumpling, after some difficulty, elevated himself on a fork of this tree. Standing on one leg he kicked out the other and set the whole fence vibrating and cracking as he executed a wild untutored ballet, whistling a few bars of quaint melody. This was interrupted by occasional grunts needful to preserve his balance. He then essayed to descend the tree. The footing was precarious, and the Dumpling slipped. Nay, more—he fell beyond all recovery. He subsided gracefully backwards into the wooden tub. He was most effectually jammed into this tub; his legs projecting below the knee, his arms above the shoulder. Luckily there was no water in the tub.

"Here, just come and help me out, and don't stand there gaping like a lot of idiots."

The faithful four flew to the rescue. They seized each a leg or an arm, and pulled four different ways, "but not all the king's horses, not all the king's men, could set Humpty Dumpty up again."

"Shove us over, can't you? What puny imps you are!"

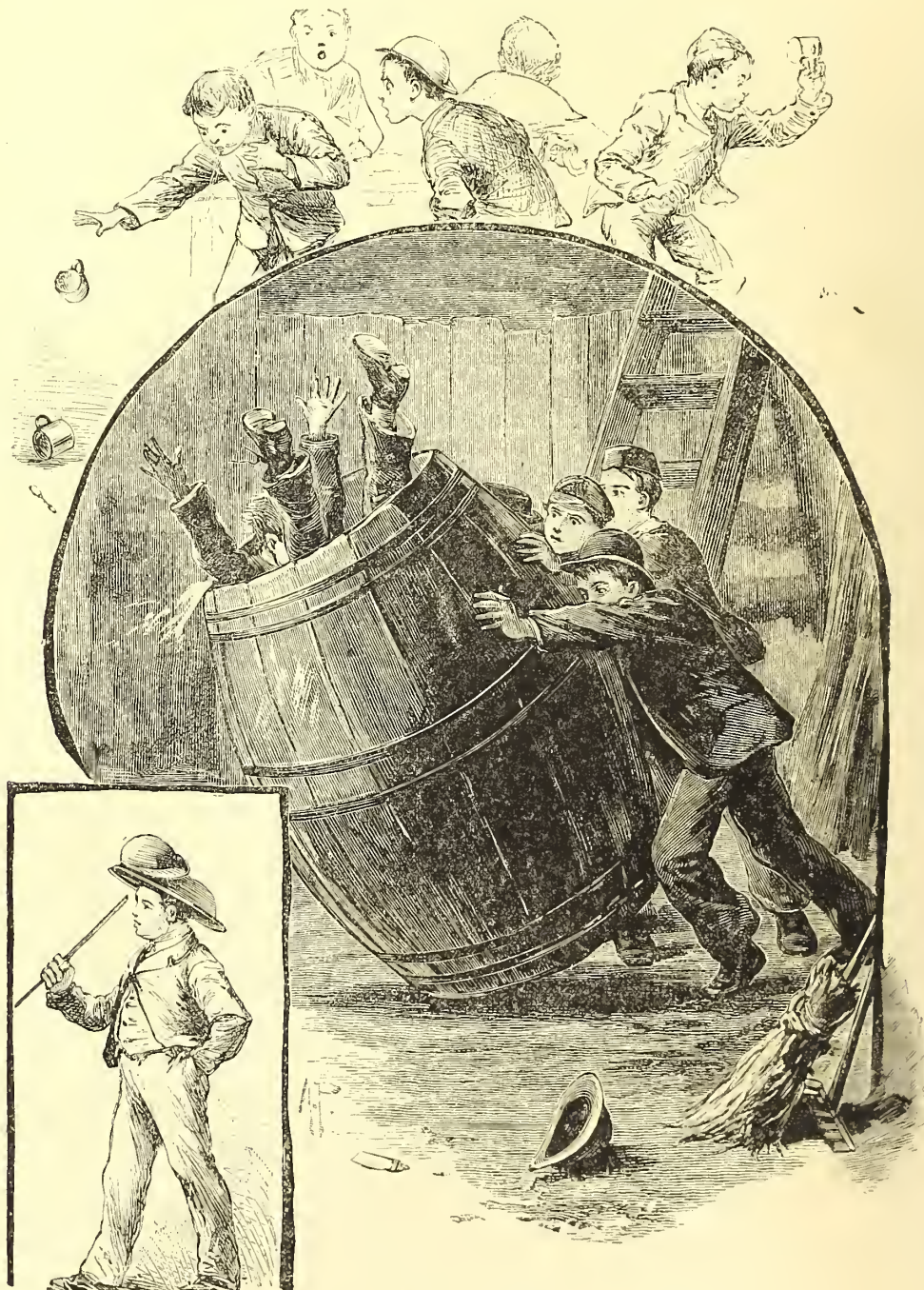
They shoved their mightiest, and succeeded in converting him, for the time as it were, into a gigantic tortoise. If only a cast could have been taken of him in that position, a model might have been executed fit to take its place among the

ful myself for fear you should think me greedy."

A murmur of approbation greeted this magnanimous declaration. The trifle was brought forth from its hiding-place, and as the moonlight fell upon its snow-white substance, the eyes of the Jolly Guzzlers flashed with delight.

Daintily they began to sip the super-incumbent foam, which melted like nectar in their mouths. Then they came to the more solid composition and its rich sauce. Into this dived the four spoons, and portions were conveyed to the four mouths.

Then with a fourfold groan of amaze-



"Ugh! it's poison!"

antediluvian animals at the Crystal Palace.

The Dumpling eventually crawled out of his shell.

Half the interval between tea and preparation was thus fruitlessly expended. It behoved them not further to waste the precious moments.

"Now then," said the Dumpling as he smoothed his ruffled plumes, "don't play the fool any more. Let us see what the trifle is like. I haven't tasted a mouth-

The Dumpling placed the dish on an extemporised table, and invited his friends to hold out their mugs, which he liberally filled in succession. When all were helped, he gave the word for the commencement of the feast. Simultaneously the four spoons were dipped into the four mugs. Not even yet would the high-souled Dumpling himself partake of the food. He would enjoy the delight of his guests ere his own lips touched the sweet confection.

ment and abhorrence, with a spluttering of disgust, heads were turned aside, mugs were dropped, spoons were dashed to the ground, signals of undisguised distress were rampant, exclamations arose: "Oh, what beastly stuff! Ugh! it's poison." The banquet collapsed, and from the recesses of the old stable there issued a prolonged chuckling laugh, as though some hidden spectre were rejoicing at the discomfiture.

(To be continued.)

GREAT AFRICAN EXPLORERS.

GALTON, ANDERSSON, AND DU CHAILLU.

LIVINGSTONE'S discovery of Lake Ngami in 1849 led to Galton's attempt to reach the lake from the west in 1850. In this he

gun in his gun-bag by the side of his saddle, and rode on; for there is no use in provoking hostilities single-handed with a lion unless

before, and the hyena came in the same way, and tugged at her heel. The poor creature was in a sad state, and I and one of Mr.



A Namaqua Mission Station.

surveyed the Swakop, penetrated into Damara and Namaqua Lands, ascended Mount Erongo, and was eventually turned back by Nangoro, the fat king of the Ovampos, owing to his objection to being counter-charmed by that famous monarch. The Ovampos have a superstition that persons they eat with can charm away their lives, and, writes Mr. Galton, "Nangoro, when a young man, being a person of considerable imagination, framed a countercharm for his own particular use. This, being of course taken up by the court, is at present the fashion of the whole of Ovampoland, and it was to it that I personally objected. The stranger sits down, closes his eyes, and raises his face to heaven. Then the Ovampo initiator takes some water into his mouth, gargles it well, and, standing over his victim, delivers it full in his face." The ceremony not having been performed, the expedition was viewed with suspicion, and, instead of being allowed to proceed as promised, was ordered out of the country, and retreated to Walfisch Bay, from whence it had started. The ground covered was quite new, and the observations made were numerous and valuable. The hunting adventures with the larger game were frequent and exciting. In fact—except perhaps Du Chaillu's, which will occupy us farther on—there is no book on African travel affording more interest to the general reader than "The Explorer in South Africa."

Some of the lion stories are particularly good. One—that of the narrow escape of the servant—is worth quoting:

"Hans was riding old Frieschland, the most useful ox I had, when he saw something dusky by the side of a camelthorn-tree, two hundred yards off. This was a lion, that rose and walked towards him. Hans had his

some object has to be gained by it, as every sportsman at last acknowledges. The coolest hand and the best shot are never safe. After the lion had walked some twenty or thirty yards the ox either saw or smelt him, and became furious. Hans had enough to do to keep his seat, for a powerful long-horned ox tossing his head about and plunging wildly is a most awkward hack for the best of jockeys. The lion galloped up. He and Hans were side by side. The lion made his spring, and one heavy paw came on the nape of the ox's neck and rolled him over; the other clutched at Hans's arm, and tore the sleeve of his shirt to ribbons, but did not wound him; and there they all three lay. Hans, though he was thrown upon his gun, contrived to wriggle it out, the lion snarling and clutching at him all the time. But for all that, he put both bullets into the beast's body, who dropped, then turned round, and limped bleeding away into the recesses of a broad, thick cover, and there died."

The adventures of two other members of the expedition were of a different class:

"This man's nose was seized by a hyena while he was asleep on his back—very unpleasant, and an excellent story to frighten children with. I could hardly believe it until a case occurred—quite *à propos*. An old bushwoman, who encamped under the lee of a few sticks and reeds that she had bent together, after the custom of those people, was sleeping coiled up close round the fire, with her lank feet straggling out in the dark, when a hyena who was prowling about in the early morning laid hold of her heel, and pulled her bodily half out of the hut. Her howls alarmed the hyena, who quitted his hold, and she hobbled up the next morning to us for plasters and bandages. The very next night the old lady slept in the same fashion as

Hahn's men sat up the next night to watch for the animal. I squatted in the shade of her house; my companion covered a side path, and the woman occupied her hut as a bait. It was a grand idea, that of baiting with an old woman. The hyena came along the side path, and there received his quietus."

Galton returned to the Cape from Walfisch Bay, but Andersson, who had been collecting with him, resolved to stay and wander about Namaqualand. Here he spent some time, and then sailing for the Cape, made another attempt on Ngami from thence. He was successful, and with Bechmana assistance arrived there in May, 1853.

He navigated the lake and also the River Teoge for a short distance, but the native opposition proved too strong for him to go very far. Since then, however, Ngami has been reached by Green, Wilson, Wahlberg, and others, and circumnavigated and surveyed by Chapman, who went backwards and forwards many times between it and Walfisch Bay. In 1859 Andersson started on an expedition to discover the Cunene, that narrow, shallow, crocodile-haunted stream, the largest on the Atlantic south of the Coanza, which is now generally held to be our northern frontier on the west coast, and hence the dispute with Germany as to the annexation of Angra Pequena considerably to the south of it.

The explorer's perils and adventures were remarkable. He and Green built a hunting lodge in Ovampoland, and took part in the Damara-Namaqua wars. He was severely wounded in one of the battles, and was only just rescued in time by his gallant companion.

The Cunene, however, was his object, and to the Cunene he had resolved to go. As

soon as he recovered from his wounds, although he was crippled for life, he started for the mysterious river, and, falling in with a Swede named Ericsson, the two journeyed northwards in an ox-cart. They reached Ovakuambe, and got a boat and a native escort, but soon afterwards the natives persuaded themselves that Andersson was dying, and all fled. The two men pressed on alone, and eventually reached the river they sought. Slowly they made their way back, and at Ovakuambe, in July, 1867, Andersson died.

Meanwhile Du Chaillu had been at work on the west coast farther north, and in the course of his extraordinary adventures had explored the country of the Ogoway and Fernan Vaz—since so fully described by Mr. R. N. B. Walker—found the gorilla, and lived with the cannibal Fans and the pigmy tribe of Obongos.

Du Chaillu—of American birth, but French descent—was born in 1835, so that when he began his exploring career in 1856 he was hardly one-and-twenty. Having arranged for an escort with a chief named Mbango, he started for the Muni. His adventures were not long in coming. On the way a large canoe was sighted. In it Mbango recognised one of his defaulting debtors, and to it he gave chase. Gradually the chase was overhauled, and then Mbango sent his canoe alongside his debtor's much larger vessel, and a dreadful hand-to-hand fight took place in order to balance the accounts. Several prisoners were taken by the pursuing creditor, and then, having got security for his bill, he expressed himself satisfied and the combat ceased, after revealing to the full the curious nature of some of the West African commercial forms.

Farther up the river Du Chaillu came on the track of the gorillas in the damaged sugar-cane. He started in pursuit, and, cautiously creeping through the bushes, at last caught sight of four of them speeding along on their hind legs, with heads forward and bodies bent, like hairy men running for their lives. Later on he was brought face to face with the king of the African forest, who glared upon the intruder from the depths of his deep-grey eyes, and then, beating his fists on his breast, rushed forward to throttle the explorer as he fired and shot him dead. Gorilla-shooting is, however, ticklish work. On one occasion one of the men missed his mark, and the angry animal seized the gun and bent it up, and gave the man such a knock-down blow that he shortly afterwards died. Another man had the muzzle of his gun seized by the gorilla as he was about to fire, but, holding tight, keeping cool, and watching his opportunity, had the good fortune to shoot his foe. The gorilla stories told by Du Chaillu were numerous, and by many people were disbelieved. In fact, his statements as to the existence of such an animal were met with a storm of incredulity, and so he went back to fetch a live specimen to prove his case. Nowadays, however, no animal is better known than the gorilla, and the statements as to its height and strength have received all confirmation.

The day after first seeing the gorillas Du Chaillu, when wandering alone, ran up against a Fan warrior and his wife. The astonishment was mutual. The Fans, with their black teeth filed to points, stood open-mouthed with astonishment at "the spirit"—the first white man they had ever seen or heard of—while the white man looked on aghast at the first cannibals he had come across. The first thing he saw when he entered the village—all fenced about with human and gorilla skulls ornamenting the palisades—was a woman running along with a man's thigh fresh roasted from the fire, taking home the family dinner with as much unconcern as a working man's wife in our own country takes home the leg of mutton and baked potatoes from the baker's shop. Outside the hut in which he took up his

lodging was a pile of human ribs, leg-bones, arm-bones, etc.!

With the Fans, now better known as the Mpangwes, the explorer spent some time. To impress them with his power he had at the outset shot two swallows on the wing. For firearms were then unknown to them, their weapons being spears, small poisoned arrows shot from a crossbow so strong that it had to be strung with both feet and hands, and a deadly pointed throwing-axe so whirled as to pierce the enemy's brain.

The King of the Fans—always excepting his horrible cannibalism—proved a fine fellow, and Du Chaillu soon won his favour. He presented him, amongst other things, with a looking-glass. Great was his majesty's delight. "His countenance beamed with joy. I never saw such astonishment as he exhibited when I held the looking-glass before his face. At first he did not know what to make of it, and did not want to take the glass, till Mbéné told him that he had one. He put his tongue out, and saw it reflected in the glass. Then he shut one eye and made faces, then he showed his hands, before the looking-glass—one finger—two fingers—three fingers. He became speechless, and with all I had given him he went away as happy as a king; and every inch a (savage) king he was."

With the Fans Du Chaillu went on hunting expeditions, one of which, against a herd of elephants, he thus describes:—"The forest is full of rough, strong climbing plants, some bigger than a man's thigh, many as large as the ropes in the rigging of a ship. These creepers the natives twist together, and after working very hard succeed in making a huge fence or obstruction, not sufficient to hold the elephant, but strong enough to check him in his flight till the hunters can have time to kill him. Seeing that the men were careful in avoiding a certain place, I looked down on the ground, and saw nothing. Then, looking up, I saw an immense piece of wood suspended by the wild creepers, high in the air, and fixed in it at intervals I saw several large, heavy, sharp-pointed pieces of iron pointing downward. The rope that holds up this contrivance is so arranged that the elephant cannot help touching it if he passes underneath. Then the harrow is loosed, and falls with tremendous force on his back; the iron points pierce his body, and the piece of wood in falling generally breaks his spine.

"I also saw in places large, deep ditches, intended as pitfalls for the elephant. When he runs away or roams around at night he often falls into these pits, and that is the end of him, for in falling he generally breaks his legs. Sometimes when the natives go and visit the pit they have made they find nothing but the bones of the elephant and his ivory tusks."

The Fans surrounded the herd, and with wild cries drove them towards the traps. Soon they reached the tangles. "What an extraordinary sight lay before me! I could distinguish one elephant, enraged, terrified, tearing at everything with his trunk and feet, but all in vain! The tough creepers of the barrier in no instance gave way before him. Spear after spear was thrown at him. The Fans were everywhere, especially up in the trees, where they were out of reach of the elephant. The huge animal began to look like a gigantic porcupine, he was stuck so full of spears. Poor infuriated beast! I thought he was crazy. Every spear that wounded him made him more furious. He had just dropped down when I came close to him, and, to end his sufferings, shot him through the ear."

Travelling in Africa is not an unmixed pleasure, to judge from the explorer's story of crossing a certain mangrove swamp on the roots which projected over the water's edge, and which lay from two to three feet apart at irregular distances. "It seemed a desperate venture, but they set out, jumping like monkeys from place to place, and I followed, ex-

pecting every minute to fall in between and stick in the mud, perhaps to be attacked by some noxious reptile whose rest my fall would disturb. I had to take off my shoes, whose thick soles made me more likely to slip. I gave all my baggage and guns and pistols to the men, and then commenced a journey whose like I hope never to take again. We were an hour in getting across—an hour of continual hops and jumps. In the midst of it all a man behind me flopped into the mud, calling out, 'Omemba!' in a frightful voice. Now 'Omemba' means 'snake.' The poor fellow had put his hand on an enormous black snake, and, feeling its cold slimy scales, let go his hold and fell through. All hands immediately began to run faster than before, and to shout and make all kinds of noises to frighten the serpent. But the animal also took fright, and began to crawl away among the branches as fast as he could. Unfortunately his fright led him directly towards some of us, and a general panic now ensued, everybody running as fast as he could to get out of the way of danger."

Space may perhaps be found for another even more exciting snake story, which tells how the traveller, on retiring to rest and fastening the door, caught sight of a python's glittering scales beneath his bed. For a minute or so he stood motionless and considered.

"If the snake were to uncoil itself and move about, it might perhaps take a spring and wind itself about me, quietly squeeze me to death, and then swallow me as he would a gazelle! These were not comforting thoughts. I was afraid to cry out for fear of disturbing the snake, which appeared to be asleep. Besides, no one could get in, as I had barricaded the only entrance, so I went quietly and unfastened the door. When everything was ready for a safe retreat I said to myself, 'I had better try to kill it.' Then, looking for my guns, I saw, to my horror, that they were set against the wall at the back of the bed, so that the snake was between me and them. After watching the snake intently, and thinking what to do, I resolved to get my gun. So, keeping the door at my rear open in readiness for a speedy retreat at the first sign of life in the snake, I approached on tiptoe, and in the twinkling of an eye grasped the gun, which was heavily loaded with large shot. With it in my hand I went towards the reptile, and, fairly placing the muzzle against it, I fired, and then ran out of the house as fast as I could. At the noise of the gun there was a rush of negroes from all sides to know what was the matter. They thought some one had shot a man and run into my house to hide himself; so they all rushed into it, helter-skelter. But they rushed out just as fast on finding a great snake writhing about on the floor. Some had trodden on it and been frightened out of their wits. They roared and shouted, but no one appeared disposed to enter the house again; so I went in cautiously myself. By the dim light of the torch I saw its body had been cut in two, and both ends were flapping about the floor. At first I thought these two ends were two snakes, but as soon as I perceived my mistake I gave a heavy blow with a stick on the head of the horrible creature, and finished it. Then I saw it disgorge a duck—a whole duck, and such a long duck. It looked like an enormous long feathered sausage. After eating the duck the snake had thought my bedroom just the place for him to go to sleep in and digest his meal. He was a python, and measured eighteen feet."

And here this article must end. In 1863 Du Chaillu was at work exploring the Camma country with the intention of making his way across Africa to the Nile. He had reached the east of Ashango Land, when a gun carried by one of the party went off accidentally and killed a native. Instantly his companions were up and ready for battle. In vain Du Chaillu explained; for just as there seemed hope of peace a woman rushed out of one of the huts and shrieked that her hus-

hand had been killed by the same bullet. A general attack was made on the expedition,

and, fighting for his life, the explorer had to retreat. At last a river was crossed; be-

yond it his pursuers did not come, and the coast was reached in peace.



The King of the African Forest.

OUR NOTE BOOK.

NEW SWIMMING BATH AT THE POLYTECHNIC.

THE opening of a fine swimming bath at the old Polytechnic adds one more good feature to this already remarkable institution. As most persons are aware, this popular establishment in its old familiar form was finally closed two or three years ago, and within a very short period afterwards was started on an entirely new career of usefulness, under the style of the "Polytechnic Young Men's Christian Institute;" and as an indication of the success that has attended it in this new form, it is said that there are at the present moment over 2,000 applicants waiting to be elected members, and there were last year upwards of 5,500 students in connection with it. This is hardly to be wondered at, for the whole of this extensive building has been transformed almost past recognition, and is now virtually a most efficient technical college, and a social club of quite a luxurious character. The great hall in which the diving bell was the most conspicuous feature has been converted into a fine gymnasium, replete with everything requisite for a thorough course of athletics, and adjacent to this is the new swimming bath. This new feature of the place, like all

the rest of the establishment, is due to the generosity of Mr. Quintin Hogg, who has expended upon this bath and a large apartment over the centre of it something like £8,500. The walls are all of glazed tiles, and the actual tank is seventy-six feet long and thirty feet wide, the depth of water ranging from four to six feet. There is a handsome gallery running round the tank, and below are commodious dressing-boxes. Provision is also made for preserving the water at a uniform temperature. There are larger baths than this in the metropolis, but on the whole it may be doubted whether a more complete and handsome establishment of the kind exists anywhere in the kingdom.

A BICYCLE FEAT.

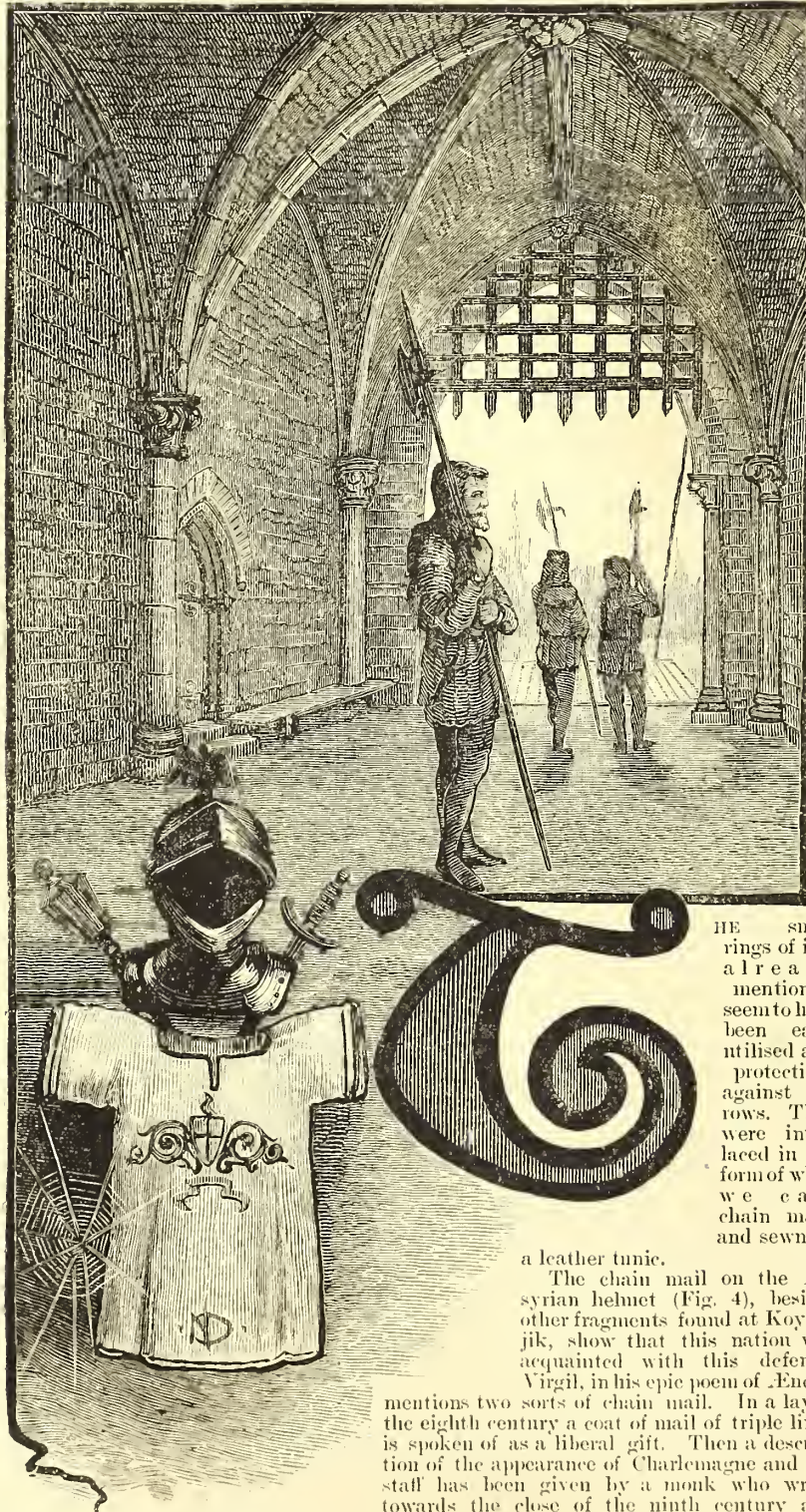
"Round the World on a Bicycle" is the title of a book which may be expected before many years are over, unless an untimely spill, or some other casualty, should mar the ambition of Mr. Thomas Stevens, a young Englishman who has already crossed the American continent on his bicycle. He started from San Francisco on the 22nd of April, and reached Chicago on July 4th, after a run of forty-two days from the Pacific to the Great Lakes. His time averaged fifty miles a day; his only luggage consisted of a waterproof hat, and when crossing the Rocky Mountains he was sometimes without

food for twenty-four hours at a stretch. When last we heard of him he was in this country preparing for a ride across Europe. He hoped to reach Constantinople by Christmas, and then devote 1885 to a run across Asia. It may interest bicyclists to know that Mr. Stevens rides a fifty-inch machine. Even if he only rides across two continents he will have done enough for fame. Asia at present and for many years to come will probably be bicycle-proof. Even in some parts of Europe it would be hardly safe for Mr. Stevens to pursue his adventurous tour. He does not include Russia in his programme, and he does well, if we may judge from the sensation the first bicycle made the other day on a community of Russian villagers. They had come out in the cool of the evening for their usual chat in the market-place, and were so startled at the sight of the noiseless approach of a wheeled steed mounted by a youth from St. Petersburg, that in the wildest panic they all rushed into their cottages and barricaded doors and windows. The innocent cause of such disturbance soon found out that, although in the Nevski Prospect the road is smooth enough for bicyclists, this is by no means the case among the country folks, and that he must either leave his "self-runner" at St. Petersburg, or take his board and lodging with him when making excursions into the country. The villagers will at present have nothing to do with the wheelman!

ARMOUR IN HISTORY AND ROMANCE.

BY JOHN SACHS

CHAPTER II.



THE small rings of iron already mentioned seem to have been early utilised as a protection against arrows. They were interlaced in the form of what we call chain mail, and sewn on

a leather tunic.

The chain mail on the Assyrian helmet (Fig. 4), besides other fragments found at Koyunjik, show that this nation was acquainted with this defence.

Virgil, in his epic poem of *Æneid*, mentions two sorts of chain mail. In a lay of the eighth century a coat of mail of triple links is spoken of as a liberal gift. Then a description of the appearance of Charlemagne and his staff has been given by a monk who wrote towards the close of the ninth century and shows the traditional effect of the appearance

of Charlemagne in his armour, an abstract of which is as follows:—"First came engines of war, with large bodies of soldiers and body-guards, that knew no repose. As the Emperor drew nearer and nearer, the gleam of arms shone upon the people, and then appeared Charles himself, that man of steel, with his head encased in a helmet of steel, his hands garnished with gauntlets of steel, his heart of steel, and his shoulders of marble protected by a cuirass of steel, and his left hand armed with a lance of steel, which he held aloft in the air; for his right hand was kept continually on the hilt of his invincible sword; the outside of his thighs was encircled with plates of steel; his boots and his buckler were of

steel. All those who went before the monarch, all those who marched at his side, all those who followed, had armour of the like as their means permitted. The fields and the highways were covered with steel, the points of steel reflecting the rays of the sun."

The ancient Britons, at the time of the invasion by Julius Caesar, stripped to fight; but they had shields, bronze weapons, and chariots to which cutting weapons were fixed.

An ancient British gorget of pure gold preserved in the British Museum, may have been for defence as well as ornament. Of the Saxon arms we have actual specimens found in their graves, illustrations in their missals, and the important Bayeux tapestry. The latter is a piece of needlework, measuring 214 feet in length and 20 inches in height that was executed at the Court of William I. under the superintendence of his queen, Matilda, who may have worked at it personally. The illustrations record the various historical incidents in the Norman Conquest. A copy about full size, can be seen in the North Court of South Kensington Museum; a smaller copy can be seen in the Westminster Chapter House, and in most public libraries.

Here is the figure of William the Norman (Fig. 8), copied from this tapestry. He wears a conical cap with a band at the side and a broad rim at the bottom, to which is attached a nose-piece; his body is covered with an armour of some kind of chain mail; in his hand he carries a mace or club; he is mounted on a horse of a red colour.



Fig. 8.

William the Conqueror, from the Bayeux Tapestry.

In another part of the work William is seen giving Harold arms. Harold is represented already in chain armour, and William is putting the iron cap on Harold, holding it by the nasal piece.

In yet another part of the tapestry "armour-bearers" are seen carrying the chain armour on lances. This chain armour was called by them "byrnie." The Early English laws of Gula were passed in the middle of the eighth century, and required every man who possessed six marks in addition to his clothes to furnish himself with a red shield, a spear, and an axe or sword. He who was worth twelve marks was to have an iron cap also, and he who was worth eighteen marks a byrnie in addition.

(To be continued.)

STRANGER THAN FICTION;
OR, STORIES OF MISSIONARY HEROISM AND PERIL.

THE MARTYRED BISHOP.

THE boyhood of Bishop Patteson, as told in his letters from school—all of which nearly, from the first in round childish hand to the firmer writing of his college days, have been preserved—was a singularly happy one. The son of the eminent judge, Sir John Patteson, and connected with the Coleridges through his mother, he was fortunate in finding relations in high places throughout his life. His first school was at Ottery St. Mary, in Devonshire, near which lived his uncle and grandparents. From here the letters tell of much cricket, riding, and running races, in which Patteson would seem to have taken great interest, and he certainly took immense interest in "the fire-works on the fifth," to judge from the delight with which he speaks of them. Of the time devoted to his lessons he made, however, excellent use.

He went to Eton in his eleventh year—he had been born in April, 1827—and was placed in the lower remove of the fourth form and boarded in the house of his uncle, Edward Coleridge. The same year he writes home how at the Montem, when the Queen was going to Salt Hill, he was crowded against the wheels of her carriage, and would have been forced under them had not her Majesty caught hold of his hand and held him up as she moved along. Later on we get a description of Windsor Fair—to which the boys a few years afterwards were forbidden to go—where three of his school-fellows were arrested for noisy conduct, and rescued by four hundred and fifty others in a regular free fight, in which rotten eggs and crackers were vigorously used. These are but foils, however, to a praiseworthy work. Later on comes a charming letter: "Rejoice! I was sent up for good yesterday at eleven o'clock school. I do not know what copy of verses for yet, but directly I do I will send you a copy. Goodford"—the late lamented provost—"when I took my ticket to be signed (for I was obliged to get Goodford,

Abraham, and my tutor to sign it), said, 'I will sign it most willingly,' and then kept on stroking my hand and said, 'I congratulate you most heartily and am very glad of it.' I am the only one who is sent up."



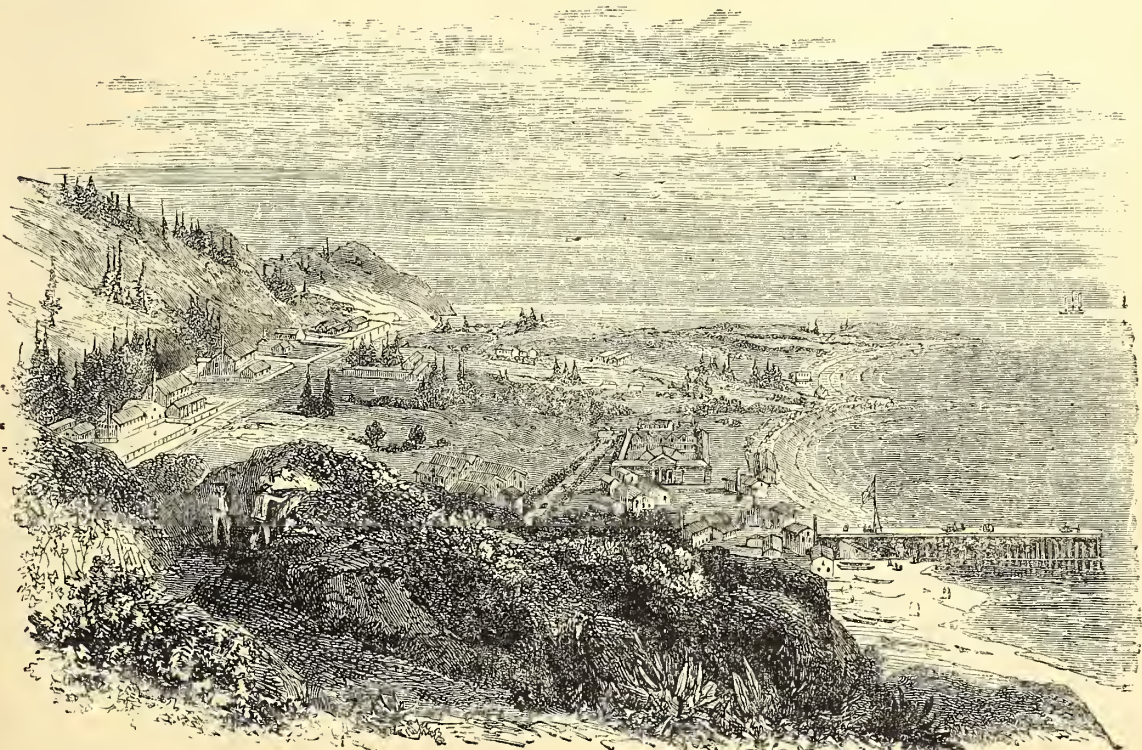
Patteson.

At sixteen he was in the upper fifth, and, not having neglected his cricket, found a place in the eleven, and became captain before he left. While in the position of one of the cricket leaders of the school an event occurred in which his true character shone forth unmistakably. A custom had arisen among some of the boys of singing offensive songs at the annual cricket and boating dinner given by the eleven and the eight at the hotel at Slough, and Patteson, who was one of the entertainers, gave notice before it

took place that he was not going to allow anything of the sort while he was there. All went well for a few minutes after the dinner was over, and then one of the boys began to sing some objectionable ditty. "If that does not stop," shouted Patteson, "I shall leave the room." No notice was taken of this, and so he, with three or four other brave lads, rose and went away. He then sent word to the captain that unless an apology was offered he would leave the eleven. After some hesitation the apology was forthcoming, and he remained.

He was one of the best cricketers that Eton ever brought to Lord's. In his first year, 1843, the College lost by twenty runs, but in the second it won by an innings and sixty-nine, a victory chiefly due to Patteson, who went in first and made fifty by steady play such as thoroughly broke the back of the bowling. In the Winchester match the same year, which looked like another runaway win for the Light Blues, Ridding, the Wykehamist captain, now Bishop of Southwell, played so splendidly with all the luck against him that the Etonians were in despair, and only won by twenty-seven, saving the match by adopting a suggestion of Patteson's as to a change in the bowling. In 1845, memorable for the tie-match with Winchester, Harrow was defeated by an innings and one hundred and seventy-four runs, making only thirty-two and fifty-five to Eton's two hundred and sixty-one. At Oxford Patteson, finding it would take him too much away from his studies, did not continue his cricket, although invited to do so to represent his University.

For he had then thoroughly entered upon his preparation for the Church. His college career was a satisfactory one, and he became a Fellow of Merton. To finish his education he travelled a good deal on the Continent, studied Hebrew at Dresden, and became a thorough German scholar. Already he had developed that facility in acquiring languages.



Norfolk Island.

which was to be of so much value to him later on. In 1853 he was ordained, and became curate of Allington. In two years' time he resigned the appointment and devoted himself to missionary work.

As far back as 1841, when in his fourteenth year, he had been much impressed by a sermon from Bishop Selwyn, who was then in this country on a visit from New Zealand. The bishop, on the other hand, was favourably impressed with him, and even asked that "Coley"—such was his nickname, his Christian names were James Coleridge—should be given him when old enough to help him in his enterprise in the islands of the Pacific.

No wonder that the bishop found Patteson an enthusiastic admirer. No man had a larger measure of that magnetic influence which wins the minds and hearts of men. As has been well said by Mr. Gladstone in the "Quarterly Review," with regard to the influence of this interview on Patteson's future life, "Of a commanding presence, of frank and manly character, distinguished both in mental and bodily pursuits, and universally beloved, he was, as it were, reflected in his young friend, as to all their points; and in quitting a career of prosperity and promise, already well begun at home, for the charge of an unformed church in an unformed colony at the Antipodes, it had been the bishop's happy lot to lift the standard of self-sacrifice to a more conspicuous and a more generally felt and acknowledged elevation than it had heretofore reached among us. But we feel confident that a Selwyn claims and can claim no higher honour than to have had a Patteson for his pupil."

It was not without much anxious thought that Patteson resolved to give up his prospects at home and go out with the bishop, and the parting from his father and sisters cost him many a pang. Of the last farewells his biographer, Miss Charlotte Yonge, has given us a picture speaking eloquently to all by the thorough genuineness of the home life it reveals. To avoid unnecessary fuss he resolved to walk to the coach that would take him on to Cullompton, the nearest railway station. The last kisses were exchanged at the door, and the sisters watched him out of sight. Turning round they found that their father had left them. Silently looking for him in his room, "they saw him with his little Bible, and their hearts were comforted concerning him." Patteson on his road turned into the churchyard, picked a few primroses from his loved mother's grave, and then resumed his journey.

He left Gravesend in the Duke of Portland on March 28th, 1855, and on the voyage out the bishop explained to him the system on which he was to work. Selwyn's plan was never to preach where missions had already been started, so as to avoid all semblance of opposition and all chance of sectarian jealousy; and owing to the wide dimensions of his field he had organised a method of educating natives as teachers, as being the fittest instruments for appealing successfully to the islanders. At St. John's, near Auckland, there was a college established, and thither native boys were brought to train and instruct. After a time the college was removed to a more favourable site at Norfolk Island, famous as the abode of the descendants of the Bounty mutineers, and thence it received a further move to a more central position on Mota, or Sugarloaf, Island, in the Banks Archipelago.

Patteson entered on his work with much quiet enthusiasm, and his success was unexampled. Without any parade he quite won the hearts of those to whom he appealed, and laid the solid foundation of lasting good. He had a horror of the pretentious and theatrical, would never even speak on religious matters to a man who was sick unless the man was alone, and would never preach to a mixed audience, but dismissed the whites first, and

then alone with the islanders would speak straight to their hearts with words of such sweetness and quiet power as always proved effective. Teaching rather than preaching, however, was what he specially aimed at; to work with as well as for his flock was his ambition. The acquisition of the many languages spoken in the different islands, which would have been so difficult a task for an ordinary man, came easily to him. Before he died he had printed thirteen elementary grammars and three vocabularies!

And in mere manual work he was not behindhand. As he himself said, "Many trades need not be attempted, but every missionary ought to be a carpenter, a mason, something of a butcher, and a good deal of a cook." And with regard to his labours in these capacities the old Maori's sagacious remark that "Gentleman-gentleman thought nothing that ought to be done at all too mean for him, while pig-gentleman never worked," may profitably be borne in mind.

In 1861 he was consecrated Bishop of Melanesia. Lady Martin, who was present, describes the ceremony as "altogether a wonderful scene; the three consecrating bishops all such noble-looking men, the goodly company of clergy, and Hohua's fine intelligent brown face among them, and then the long line of island boys and of St. Stephen's native teachers and their wives, were living testimonials of mission work."

For ten years he was unrelenting in his toil for the good of his diocese. Voyage after voyage he made, cruising from island to

island. First he had been in Selwyn's schooner the Undine, then he had a long cruise in the Sea Breeze, and when he met with his death he was in the Southern Cross.

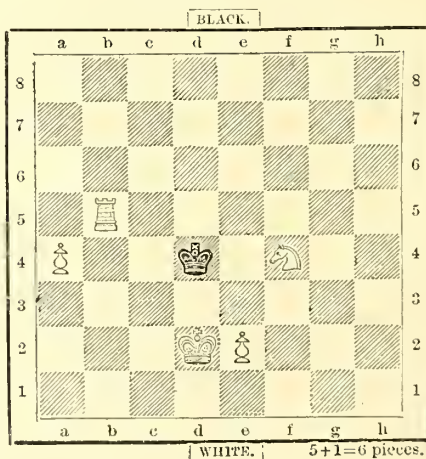
The tragedy occurred at Nukapu on 20th September, 1871. The Southern Cross was feeling her way up to the island, and was stopped by the reef, over which the blue waves were curling in the bright sunshine. A boat was lowered, which, after some distance had been traversed, was met by four native canoes, the man in one of which invited the bishop to join them. As he had found that confidence was generally gained when he landed in this way, he left the ship's boat and in the canoe crossed the reef and was taken ashore. He was never seen alive again. After an interval the canoe came drifting back, apparently empty, but as it passed the boat the sailors found to their horror that the bishop's body was on its floor. He had been murdered by the natives in revenge for the atrocities of the kidnappers, who in the "thief ships" and "snatch-snatch" ships, as the natives call them, feed the coolie trade.

In him the Gospel lost one of its truest and noblest preachers and the world one of its best of men. "As he taught," wrote Tagalana, translated by Mr. Codrington, "he confirmed his word with his good life among us, as we all know. He did not despise any one, or reject any one with scorn. Whether it were a white or a black person, he taught them all as one, and he loved them all alike."

CHESS.

(Continued from page 11.)

Problem No. 86.



White to play, and mate in three (3) moves.

CONSULTATION GAME.

Opening: Fianchetto.

Played in May, 1884, Messrs. S. S. and J. S. consulting together against Mr. H. M.

WHITE: S. and S.

BLACK: H. M.

- | | |
|-----------------|--------------|
| 1. P-K 4. | P-K Kt 3. |
| 2. P-Q 4. | B-Kt 2. |
| 3. Kt-K B 3. | P-Kt 3. |
| 4. B-Q B 4. | B-Kt 2. |
| 5. Kt-B 3. | P-K 3. |
| 6. B-B 4. | P-Q B 4 (a). |
| 7. Kt-Q Kt 5. | K-B sq. |
| 8. B-Q 6 (ch.). | Kt-K 2. |
| 9. Kt-B 7. | B x K P. |
| 10. Kt x R. | B x Q Kt. |
| 11. P x P. | B x P. |

- | | |
|-------------------|--------------|
| 12. R-Q Kt sq. | B-B 6 (ch.). |
| 13. K-K 2. | Kt-B 3. |
| 14. Q-Q 3. | B-B 3. |
| 15. K R-Q sq. | P x P. |
| 16. R-Kt 3 (b). | K-Kt 2. |
| 17. B x B P. | Kt-R 4. |
| 18. R-R 3. | Kt x B. |
| 19. Q x Kt. | P-Q R 4. |
| 20. Q-R 6. | Kt-B 3. |
| 21. B-Kt 6 (c). | Q-K 2. |
| 22. R-R 4. | P-Q 4. |
| 23. B x P. | B-Kt 2. |
| 24. Q-Kt 6. | R-R sq. |
| 25. K-B sq. | R-R 3. |
| 26. Q-Kt 5. | Kt-R 2. |
| 27. Q-Kt 3. | B-B 3. |
| 28. R-R 3. | Kt-Kt 4. |
| 29. B-Kt 4. | Q-Kt 2. |
| 30. R x R. | Q x R. |
| 31. K-Kt sq. | P-Q 5. |
| 32. P-Q R 4. | Kt-B 6. |
| 33. B x Kt (d). | P x B. |
| 34. R-R sq. | Q-K 7. |
| 35. P-R 5. | B-K 5 (c). |
| 36. P-R 6. | B x Kt. |
| 37. P x B. | B-Q 5. |
| 38. Q-Kt 7 (f). | B x P (ch.). |
| 39. K-R sq. (g). | B-K 8. |
| 40. R x B. | Q x R (ch.). |
| 41. K-Kt 2. | Q-Q 7 (ch.). |
| 42. K-R 3. | Q x B P. |
| 43. P-R 7. | Q-B 4 (ch.). |
| 44. K-Kt 2. | P-B 7. |
| 45. Q-Kt 2 (ch.). | K-R 3. |

and White resigned.

NOTES ON THE GAME.

(a) Black ought to have played either P to Q 3 or Kt to K 2, as White's next move

shows, which threatens check in two places, and the capture of the B or the R.

(b) White would not have gained the Q P by taking the Kt, because the K would have taken the B.

(c) The struggle for the R's P becomes interesting.

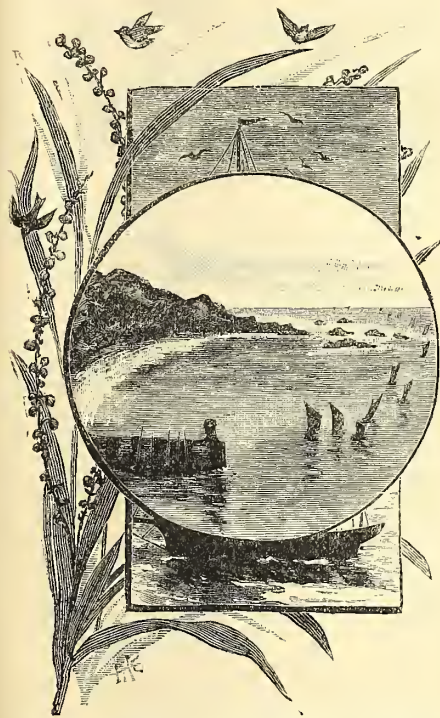
(d) If 33, Kt x P, then B x Kt. 34, R x B, Kt-K 7 (ch.), and Kt x R.

(e) Black did well by waiting to take the Kt, and let the P go to R 6.

(f) The defence of R to K B sq. would have been the safer one, whereupon the Q would have taken the R's P.

(g) If K-Kt 2, then B-K 8 (d. ch.). 40, K-R 3, Q-B 8 (ch.). 41, K-Kt 4, Q-B 5 (ch.), etc.

Correspondence.



S. A. G.—There is a "very large stock of magic lanterns and slides and lenses and fittings" at Hughes's, 82, Mortimer Road, De Beauvoir Square, N., but ordinary opticians have enough for you to choose from.

CHEQUER.—The British Chess Association law as to a pawn taken in passing is No. XII. It reads: "Should a player be left with no other move than to take a pawn in passing, he shall be bound to play that move." The rule as to queening a pawn follows: "When a pawn has reached the eighth square the player has the option of selecting a piece, whether such piece has been previously lost or not, whose name and powers it shall then assume, or of deciding that it shall remain a pawn."

SIRIUS.—1. The line is correct; to pass a line afar from another line is to send it off at right angles. 2. If you know that Saturn is in Taurus, and you find in Taurus a large star that is not shown or mentioned in maps of fixed stars, it is reasonable to suppose that the unknown can be no other than Saturn. It is not customary to show the planets in maps of the constellations.

SCHIO.—The Schio Liao is a paste made in China, and consists of fifty-four parts of powdered lime, six parts of powdered alum, and forty parts of fresh blood, mixed up together in a homogeneous mass. It will fasten stone, porcelain, or any hard substance.

KIRKCALDY.—1. If you are healthy, opening your eyes under water will not hurt you. 2. In very smooth water a paddle steamer would perhaps be the fastest, but under all other circumstances the screw would win. 3. Jules Verne was born in 1828. 4. There is no difference.

C. P.—Buy the second volume, and read the treatise on cricket that it contains.

GANNET.—You can buy marine glue at a penny a stick at nearly all indiarubber shops. You make it by melting indiarubber in naphtha, and adding twice as much shellac. There is another glue made by dissolving twenty grains of indiarubber in two fluid ounces of chloroform, adding four drachms of powdered mastic, and letting the mixture macerate for a week. It must be kept cool and well-corked.

H. R. WASHINGTON.—1. Sir Ralph Abercromby was mortally wounded at the decisive battle at Alexandria on January 21, 1801, when the French were driven out of Egypt. He died seven days afterwards on board the admiral's flagship. 2. There would be the same range of excellence amongst the boys, no matter at what age the limit was put.

W. HARRISON.—Try Loomis's "Practical Astronomy," published by Sampson Low and Co.; Chambers's "Practical Astronomy," published by the Clarendon Press; Admiral Smyth's "Celestial Cycle"; "Herschel's Manual," etc., all standard works, obtainable through any bookseller.

THE WOULD-BE SAILOR.—1. According to some authorities, the first ironclad was the Merrimac, used by the Confederates in the American War. The Monitor turret-ship is of the same date, but Captain Cowper Coles was prior to Captain Ericsson. It is in fact the old story, the "first" inventor can never be mentioned without an earlier one putting in a claim. 2. Buy "Under the Red Ensign, or How to go to Sea," price one shilling, from any nautical bookseller.

PICKWICK.—The only satisfactory way of procuring a skeleton is by maceration, which is odoriferous but sure. The aut method is all very well, but in the first place you have to find the hill, and in the second you have to provide against the body being removed by some other agency.

A. TAKER OF THE "BOY'S OWN PAPER."—For fowl dealers consult the advertisements in the "Exchange and Mart," or the catalogue of some poultry show.

BASINGSTOKE and Others.—It would be of no interest whatever for us to fill our columns with the elementary geography of our native land. If you want to know the road from one place to another buy a map; if you do not understand a map buy a geography and learn.

I. W.—For instructions in the management of calves consult some dairy manual, or apply to some agricultural newspaper. Since writing this it has occurred to us that perhaps you mean the calves on your legs. If so, we are unable to tell you how to "grow them." We believe that their abnormal development is a trade secret, never communicated previous to the assumption of the plush!

AN OLD SUBSCRIBER.—Cover the clothes-basket with American cloth, or tarpanlin, or oiled canvas, or macintosh. Either will do for a coracle. Learn to swim before you trust yourself inside it! Even a proper coracle is a most crazy craft.

PAT.—What do you mean by "accidentally"? Where is the umpire to draw the line? If the ball is touched by the hands the penalty must be enforced.

FEET.—The title-page, index, and plates of the fourth and fifth volumes cost one shilling and eightpence per packet. They are in stock.

M. LONG.—1. Read Croll's "Glacial Period." 2. Crinoids are still existent. See the Challenger reports. 3. No. The sunsets began before the eruption. 4. The only magazine is the Geological, published by Trübner and Co.

H. H.—See the "Thrones of the Ice King" in the fifth volume. The Alert was presented to the United States Government.

A. RICKARDS.—The articles on "Fishing Tackle and how to make it" began in No. 105, and ended in No. 135, in Vol. III.

NESTOR.—They are not initials. A E I (pronounced A I) is Greek for "for ever."

BRITON.—Guides to Army Examinations are published by Stanford, of Charing Cross. The age is from seventeen to twenty.

KING'S COUNTY.—1. Answered over and over again. The number on the last copy will tell you. Count back. 2. Both subjects have been exhaustively treated. See indexes. 3. Certainly not. Our columns are much too valuable to serve as refuges for amateur discussions on political squabbles.

H. K. HOLDEN.—1. The equinoctial gales take place at the equinoxes, Lady Day and Michaelmas, and last over a few days. 2. Yes, there is, perhaps, no disease that is not now curable in its early stages. It is only a question of taking it in time.

S. H. HARE.—You will find an article on "My Flagstaff, and how I rigged it" in No. 86, in the October part for 1880.

H. S.—If you want to go for a sailor apply at the Mercantile Marine Office at Liverpool. No ships go to Fleetwood.

REDFEATHER.—The egg articles were in the second volume. Read them.

MILITARY CIVILIAN.—The only way we can suggest for you to increase your growth to army height is to emigrate to Australia. It often happens that lads who have apparently stopped growing in this country take a fresh start under the sun of the Antipodes.

WOULD-BE CHEMIST.—1. The articles on "Pharaoh's Serpents" was in the May part for 1881. 2. We cannot here describe the manufacture of whiskey. 3. You will become a naturalist more rapidly by leaving off the whiskey.

ATHLETE.—There is only one satisfactory way of cleaning wash-leather articles, and that is to take them to pieces, clean the leather, and make them up again.

A WEE TROUT.—1. There is no good fly-fishing near London, and it would be useless to recommend any place under such circumstances. 2. No.

W. H.—We have reprinted, and all the volumes are again in print at the published price of six shillings for the first and seven shillings and sixpence for the others.

A. V. TIERNEY.—Messrs. Hachette, of King William Street, Strand, are French publishers and agents, and you could get the books you require by applying to them.

CAPTAIN NEMO.—Our knowledge of the mails is derived entirely from the Postal Guide, and that you can get yourself at any post-office, price sixpence.

A LOVER OF THE SEA.—In nearly every seaport town there is a nautical warehouse where such books are sold. The Science and Art Department hold examinations in Navigation. Apply to South Kensington for particulars. Messrs. Norie and Wilson, of the Minories; Potter, of the Poultry, and others, will forward you catalogues if applied to.

BOB.—"Ora pro me" means simply "Pray for me."

CLERK.—Nor are you likely to. What interest do you think it would be to our readers to be informed "what percentage your writing would be allowed at an examination"? Such questions are promptly consigned to the waste-paper basket, as they will eventually be answered by others—examiners, to wit.

YOUNG ENQUIRER.—1. Leave it alone. 2. The frosting on the cards is made by coating them with gum, and sprinkling them with powdered glass.

DARDANUS.—For all particulars as to the movements of ships apply to Lloyd's, Royal Exchange, London. You will always be told if any particular ship has arrived or been heard of. Send a stamped envelope.

LT. METTON.—You should get an indiarubber stamp, and mark your pigeons on one of the wing feathers. This is the method adopted by the flying clubs.

B. REECE.—One of the principal depôts for American fretwork machinery is at Churchill's, in Sun Street, Finsbury. Their catalogues are sent on application.

W. H. STYLES.—The coloured plate of the Viking Victory refers to the story of Sigvald.

TEDDY.—1. The theory is an accepted fact, and the literature on the subject no longer worthy of notice. 2. The articles on Dogs were in the second volume.

EYES AS SHARP AS A NEEDLE.—Messrs. W. H. Smith and Son's offices are at 136, Strand, London, and it is there that you should apply for information, and not at obscure country platforms. The mistake in the date appears in only a part of our edition. We cannot give any "rules for the cricket season," as the season would prefer making its own.

DAMON.—1. See our article on the last football season. The club you mention does not even reach second-class form. 2. Yes.

ATHLETE.—Give your shoes a good coat of dubbin, or, when they are wet, dose them well with castor-oil or Russian tallow.

CYCLER.—The Cyclists' Accident Insurance Corporation is at 15, Coleman Street, E.C. The annual premium for machines under £20 in value is twelve shillings and sixpence, for those under £30 it is fifteen shillings. Apply to the secretary for particulars.

CLIPPER LAD.—The America was ninety-five feet on deck from stem to stern, eighty feet keel, and twenty-three feet amidships. She drew eleven feet of water in sailing trim. Her masts were seventy-nine feet six, and eighty-one feet long. Her main-gaff was twenty-six feet, her main-boom fifty-eight feet, her bowsprit thirty-two feet. She was built of white oak, locust wood, cedar, chestnut, and heckmatack, and the frame was strengthened with diagonal iron braces four feet apart. Her cutwater was a prolongation of herself, and had no false wood. She was painted lead-colour.

STUDENT.—1. No question of rightful heirship can arise when elected by the people. 2. See the Almanach de Gotha. 3. All foreign governments have the right to open private letters.

J. MORRIS.—1. Better pronounce the name as spelt. The earl's family pronounce it Cooper, but there is no proof that the poet did so. 2. The locals make one syllable of the "mare," but it should properly have two. Call it Weston, and evade the difficulty.

ANXIOUS BILL.—We see no reason why you should not tell your father that you have been saving money out of what he has given you for food. At the same time we think that the amount he allows you is not excessive for the purpose he states, and that to save out of it is to run very close to the line where wise thrift ends and short-sighted avarice begins. Your fear at the result shows that you are very much of the same opinion. Better good health than a deep purse.



HEADS OF OUR GREAT SCHOOLS.

(Continued from page 32.)

1. REV. A. R. VARDY, Birmingham.
2. MR. WELDON, Dulwich College.
3. DR. KYNASTON, Cheltenham.
4. DR. PERCIVAL, Clifton.

(To be continued.)

SPIDER.—The reason of the failure is either that the lamp is not strong enough, or the lens is not in focus. A feeble colza-oil lamp is of no use; you must have a very bright light, which you might perhaps obtain easiest by having it in a lantern outside.

J. R. L.—Write to Bible Society's House, Victoria Street, Blackfriars, London.

G. H. L.—Give your skylark a good cage, open in front only, with a bend in it; no perches, but a nice green turf in the bend in front. Feed on bread-crumbs, with a little crushed hemp-seed, and give also table scraps. Draggle the crumbs with milk.

E. W. GOWING.—No; give slugs, and in winter a little finely-minced fresh meat. We think it is the ordinary thrush from your description, though probably oddly marked.

E. T.—Weakness of constitution alone caused the death of your young birds. You probably also made the mistake of breeding too early in the season.

G. H. E.—Get ordinary green tea, and make an infusion about the colour of brandy. Use this when cold as a lotion, twice or thrice a day, pouring about a teaspoonful into each ear, and retaining it for a minute. Give the dog a dose of castor-oil once a week, and let him have well-mashed boiled greens in his food thrice a week.

JAMES D.—1. Too long to insert. See our papers on poultry. 2. You can only prepare fowls for show by proper attention months beforehand to their feeding and health, and by keeping them apart from other fowls that might destroy their plumage. All trimming or clipping is illegal, and can easily be detected.

DOGIMUS.—Five grains of powdered alum to an ounce of water make a very handy eye-lotion for dogs.

T. HANLET.—Your fowls died of inflammation, but of what kind only a post-mortem could have revealed.

H. W. H.—You must feed the canary more plainly, but we fear you can do little else. It is asthma, and nearly always fatal. Put saffron in the water, and give three drops of castor-oil, warm—not hot—twice a week.

E. J. TOBY.—"Gapes" is a disease caused by worms that infest the throat. Treatment is most unsatisfactory, but it can be prevented by clean, wholesome food, and perfect attention to dryness and cleanliness of yard and run.

BOARHOUND.—Give him Spratt's bismuits, also some of the cod-liver-oil cakes sold by the same firm. He will need no other medicine.

REINDEER.—Your cat is a Persian.

A. CONSTANT READER.—But it *must* be your fault. If your fowls go like that they either have unclean water, bad feeding, or are kept in a damp or dirty condition. Use a little sulphur ointment to the bare places. Do they get exercise and sunshine?

NARCISSUS.—There is no difference between the size of house and tree sparrow's eggs; if any, the latter have it. Buy the monthly part, price sixpence, and consult the plate.

A. BEGINNER.—Certainly the fungus is a disease in fishes, caused by overcrowding as much as anything else. But you must clear out your whole place and begin again at the beginning. Put in only wholesome fish, and let the water be purified by vegetation, and have occasional sunlight.

SKYLARK.—Six questions all of a lump! It would take a naturalist an hour to answer them all orally. The wren isn't the tomtit, and there couldn't be a cheap book on birds. The number you inquire after is sixpence.

PATTERN MAKER.—You will find a good deal about turning in the "Amateur Mechanic" and in "Lathework," by Paul Hasluck. You would find a good many references in the index numbers of "Amateur Work."

C. D. VIDE.—1. Stop the rape. I suppose you mean a canary, though you don't say so. 2. Your sister is right.

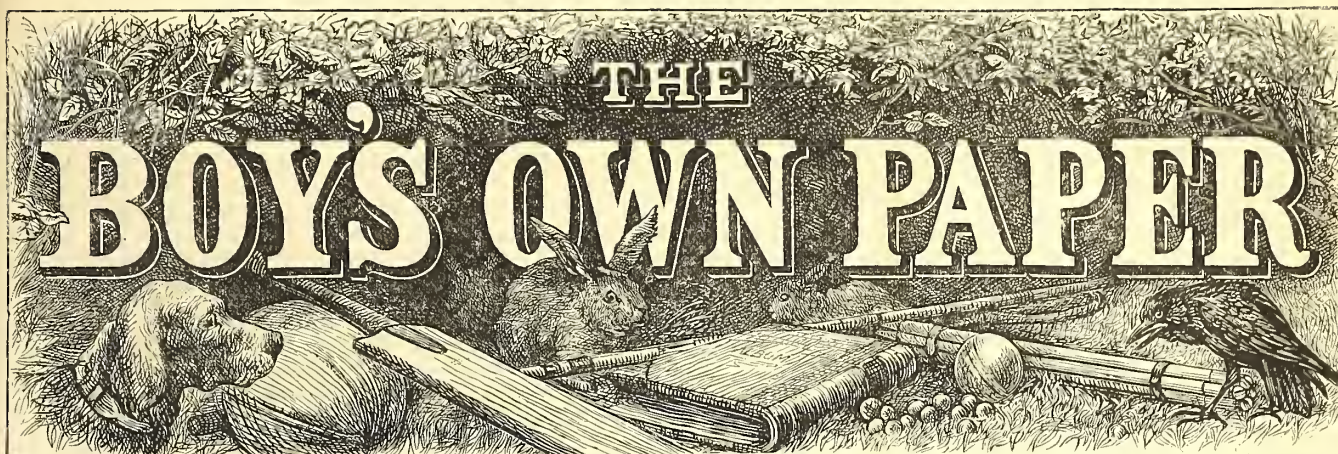
ULIC.—Well, then, in mercy snke, let the poor squirrel go. It will never be tame, though it may get broken-spirited and quiet.

STONECROFT.—All such things are tokens. Coins have the monarch's head.

Our Portrait Gallery.

(Continued from page 32.)

In continuing the portraits of the Heads of our Great Schools, we have engraved the four in this week's number from photographs as follows:—Dr. Vardy, of Birmingham, from a photograph by Mr. H. J. Whitlock, New Street, Birmingham; Mr. Weldon, of Dulwich College, from a photograph by Mr. S. A. Walker, Regent Street, London, W.; Rev. Herbert Kynaston, D.D., of Cheltenham, from a photograph by the County of Gloucester Studio, Cheltenham; Dr. Percival, of Clifton, from a photograph by M. Guttenberg, Clifton.



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SATURDAY, OCTOBER 25, 1884.

Price One Penny.
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SCHOOL AND THE WORLD:

A
STORY OF SCHOOL
AND
CITY LIFE.

BY PAUL BLAKE,

Author of
"The Two Chums," "The
New Boy," etc.

CHAPTER V.

It would be diffi-
cult to exaggerate



rate the unpleasant-
ness of Lang's sen-
sations as he obeyed
the Doctor's sum-
mons. What could
he be wanted for
except about that
wretched visit to
the Rummage-
room?

Could Mr. Picker-
ing have seen him
coming out of it?
He did not think
that was possible.

"Hush!" whispered Tommy, "you'll wake them."

Very rarely had he seen the Doctor looking so angry as on this occasion. A boy notices anxiously a master's mood when he is concerned in its results.

"You were in the Rummage-room this afternoon, Lang," began Dr. Fellowes, abruptly.

Lang looked down guiltily.

"Why did you not say so an hour ago when I asked who had been there?"

"I didn't like to, sir; I was afraid you might think I had something to do with the disappearance of Simpson's money."

"Do you think I shall consider it less likely now that I find you have concealed your visit there and tried to deceive me?"

"I only took a ball out of the box," protested Lang. "I haven't any notion which is Simpson's box even. I never touched a thing whilst I was in there."

He spoke angrily, with a sense of injustice. Dr. Fellowes smiled sternly.

"Had you not better wait till you are accused before you assert your innocence so warmly? I have only accused you of deceiving me about your visit to the room. As it happens, I know on excellent evidence that you went there, and, fortunately for you, you were watched the whole time you were there. I don't think you guilty of anything worse than an attempt at deception, and of that you cannot clear yourself, can you?"

"No, sir."

"Very well. I call your conduct cowardly. You must have been doubtful of your own character, or you would not have hesitated to own everything when I asked. The result of it is that, as by accident I was able to discover what you thought you had concealed, you have shaken my faith in you. I had hoped that you were reforming this half; you know I had grave cause to be dissatisfied with you. This episode has not tended to confirm me in my hopes. You will write out the first six odes of the second book of Horace, with translations of the first three. You may go."

Lang obeyed. The tea-bell had rung, and some of his form were wondering where he was. He didn't feel much inclined for tea, but he determined to brave the whole affair out. The Doctor had been unjust; of that he was sure. It was no good trying to keep straight if something were always happening to pull him back again. Why should he care? It was a lot of trouble to work hard and keep out of mischief; it was much better fun to take things easy and chance the result.

"Hullo, old man, what's up?" asked Ferguson as Lang took his seat. "The Doctor seems to have a fancy to-day for interviewing us; he's beginning to appreciate the delights of our conversation at last."

"Not much," returned Lang, with a laugh. "One can never get a word in edgeways when he's begun to speak. He's like Tennyson's Brook—goes on for ever."

"Quoting Tennyson!" exclaimed Dickson. "Have you been reading him up in order to make us feel small?"

"I say, Soady," continued Ferguson. "what on earth did the Doctor want you for? Is he going to persuade you to play 'Auld Lang Syne' to Mrs. Fellowes?"

"No, he isn't," replied Soady; "I don't know it quite perfectly yet."

There was a small roar at this, which was said with perfect gravity. Soady hoped that it would turn the talk from a topic which he wished to avoid, but his manoeuvre failed.

"Then what did he want?" persisted Dickson.

"Never you mind," replied Soady, mysteriously. "I didn't bother you about it last time he sent for you."

This was carrying the war into the enemy's country, for it was notorious that the last time Dickson had visited the Doctor it was to expiate an offence by corporal punishment. Dickson was still very sore on the subject, and looked daggers at Soady, whose round, good-natured face expressed an utter want of malice.

No one else seemed inclined to question them, so the talk drifted round to other subjects. But Lang had been an eager listener to what was said. He had not known of Soady's interview with the Doctor. It flashed across his mind at once that he had seen him go into the Rummage-room and had told the Doctor.

"The wretched sneak!" he said to himself; "if I don't pay him out for this!"

Soady glanced down the table and saw the appealing face of Tommy turned towards him. Since he came to St. Mary's Tommy had never spent so long a time without speaking to his friend, and the world now seemed blank to him. A funny little chap he was, rather pitied and looked down upon by his companions, but in one thing at least he far outshone them all—his loyalty to his friend. Soady had been very kind to him, and there was nothing Tommy would not have done in return. And now his friend had avoided him ever since the beginning of afternoon school, had interviewed the Doctor (a most tremendous event) and never said a word about it since. Tommy was upset; he had no one to confide his trouble to; he became utterly miserable.

Soady caught his appealing glance and resolved to see him some time during the evening and put matters straight. But directly tea was over preparation began; then Soady had to go to the first-form room to attend a cricket committee, and poor Tommy had no chance of speaking to him. He thought his friend was still avoiding him on purpose.

This would never do. Tommy resolved to write a letter to him. "Dear Soady,—I don't know why you are angry with me, but I'm very sorry. If I've done anything wrong you can lick me if you'll be friends again. Tommy."

The question then arose how to get this conveyed to its destination. Soady would not come out of the first-form room again before bed-time, and their bedrooms were a tremendous distance apart; in different wings of the building, in fact.

He caught sight of Dickson returning to the schoolroom for a book. Plucking up his courage he went up to him.

"Please, Dickson, would you mind giving this to Soady?"

He held out his note timidly.

"All right," said Dickson, pocketing it. Tommy was for a time relieved in heart, but how miserable he would have been had he known that Dickson forgot all about his precious epistle, and happening to want a spill to light another jet of gas with, drew from his pocket the first piece of paper he put his hand on and lit

it. That piece of paper was Tommy's note.

CHAPTER VI.

BED-TIME came, and Soady had given no sign of his existence. Tommy was in despair. What had he done to be treated so heartlessly.

There was plenty of noise and confusion in going upstairs and undressing, and even Tommy could not fail to take a passing interest in Featherstone's latest trick of arranging Simpson's basin of water so that it fell over directly it was touched. But when the gas was out and the boys gradually dropped off to sleep his misery returned: the silence of the night only made his loneliness the more oppressive.

It may seem a trifling cause for misery to those of you who are full of life and spirits, who have plenty of friends and a lot of enemies to keep things lively for you; but picture yourself in Tommy's place, fresh from home, knowing no one but his one friend, and then finding that one friend prove faithless.

Tommy could stand it no longer. He tried to cry himself to sleep, but failed. At last a desperate resolve came into his mind: why should he not make an excursion to Soady's room and see him for a minute? He knew the way well enough; there was quite enough moonlight for him to find it: every one was asleep long ago; he had nothing to do but open the doors carefully and not make a noise. Besides, most of the doors were open, for the night was hot.

Why hadn't he thought of it before? He listened a moment for any sound, but all was silent. He crept out of bed and made straight for the door. A slight push, and he was in the passage.

Along the passage, and then, after a turn to the right and six steps down, was a corridor leading to the other wing. The third door along the corridor was Soady's room.

So far he reached without the slightest misadventure; but the door of No. 8 creaked, and he stopped suddenly.

No noise! He pushed it a little farther, it creaked again. But Tommy was bolder now; he sidled into the room and crouched behind a bed.

There lay Soady and three other boys, all unconscious of their midnight visitor.

Tommy crept up to his friend's bed side and gradually put his hand into his. He waited anxiously for him to open his eyes. He did at last, and there stood Tommy by his side, with his finger on his lips.

"Why, Tommy!" exclaimed Soady; "what's the row?"

"Hush!" whispered Tommy; "you'll wake them."

"All right!" returned Soady, in a low voice. "What's the matter? Are you ill? You'll catch cold out there; come in here with me."

Tommy crept into the bed, and, hiding his head beneath the clothes, burst into a fit of crying.

"Hey, gently, Tommy! you'll break a blood-vessel! Who's been licking you? I'll teach him!"

"Tisn't that," said Tommy; "I thought you were angry with me."

"And you're crying about that? Why, Tommy, what put that into your head?"

"You ran away from me, and you haven't spoken to me, and I sent you a

letter, and you never answered it, and I couldn't bear it any more," sobbed Tommy.

"There, never mind; it's all a mistake, I never had your letter," said Soady.

He let him have his cry out, thinking that perhaps he had not been wise in keeping the youngster so much out of the company of those of his own age. What would he do when he was left alone at the end of the half?

However for the present the kindest thing was to disabuse his mind of the idea that he was offended with him, so Soady told him all about the interview with the Doctor, under a pledge of secrecy which he knew Tommy would never break.

"What's that?" exclaimed Tommy, at last. "I thought I heard some one!"

Apparently it was a false alarm, but it brought to their minds the fact that it

was quite time Tommy went back to bed. He crept out, and, first satisfying himself that every one was asleep, stole out of the room.

He did not notice that Melhuish was watching him out of the corner of his eye, still less did he or Soady guess that Melhuish had been an interested listener to the whole of the secret history of the Doctor's investigation of the robbery.

(To be continued.)

ONE OF MOTHER CAREY'S CHICKENS.

BY THE REV. A. N. MALAN, M.A., F.G.S.,

Author of "Cacus and Hercules," "A Duncce's Disasters," "The White Rat," etc.

CHAPTER IV.

THE banquet was indeed a failure. Its immediate effect on the Dumpling was to make him unusually irascible, and his club was employed the next day to the no small tribulation of sundry small boys. Crestfallen and humiliated in the eyes of the guzzling fraternity, he felt that his prestige as a confectioner had suffered irretrievable disgrace. He had to brook the satirical smile of Stodge, the gruesome gibes of Grubbins, the banter of Buffles, and the jeers of Guzling Jim. And he was conscious that they discussed the trifle with language more than a trifle derogatory to his dignity.

It was clear that the Dumpling had considerably lost caste by the late failure. He could not count upon the allegiance of his followers. The existence of the club hovered on a very precarious tenure. Created with the object of providing from time to time a dainty repast for its members, it had signally failed at the outset, and all confidence in future successes was as unsubstantial as the froth of beaten eggs.

The Dumpling meditated upon these things the afternoon following his ill-starred feast, as he sauntered aimlessly about the field. He looked at the hollow in the old willow-tree. No sign of a hen's domestic details; the nest was no more; the wandering winds had made havoc of its substance. The Dumpling hummed an air and banged the tree with his club. No rustle of wings, no scuttling of legs, no agitated cluck sounded in response. The echoing wall gave back the stroke, and that was all.

The fat boy sighed as he moved off in the direction of the hen-yard. He had a few grains of Indian corn in his pocket. History often repeats itself. He leant over the railing and called the attention of the poultry by the "Coop, coop!" that brings to their minds the remembrance of feeding-time. A general clamour of voices ensued; the young birds bustled up, the old ones jerked their heads and peered about, and comported themselves with the dignity befitting old birds who were not to be caught by chaff. The Dumpling threw in two grains, for which there was a flurry and scuffle. The old Cochon China hen was there, but, being somewhat stiff in the legs, she was nowhere in the race for the prize.

The Dumpling watched their manœuvres, and as he watched he pondered. For full three minutes he stood in the attitude of one absorbed in thought. An

idea seemed to strike him, for he struck a mighty blow with his club upon the paling. Then thought took action.

His last grain of corn was carefully bored through with a nail. He then took from his pocket a coil of string, one end of which he fastened securely to the grain of corn. The other end was made into a loop and slipped over one of the buttons whereby his nether garments were braced. He then watched for the near approach of the particular hen, and threw the grain to her under the lowest rail. She flew upon the spoil, mindful, no doubt, of similar delicacies erewhile enjoyed. She swallowed it with a gulp and cackle of satisfaction.

The Dumpling then turned his broad back on the poultry-yard to cross the field in the direction of the willow.

Now the doctor's garden was separated from the field by a terrace, with a broad flight of steps leading up and down. On this terrace the Doctor and his sister would often take a stroll for the benefit of their health. It so happened that they appeared upon the scene just as the Dumpling's stout form was crossing the field. There was nothing suspicious in his progress, but something very unusual soon attracted the Doctor's attention.

"Look, Rachel, at that strange fowl! Whatever can it be up to? It must have gone mad! Did you ever see a more extraordinary performance?"

It was indeed strange! There was the Cochon China hen, with outstretched neck and ruffled plumage, proceeding rapidly across the field, tumbling at times, then revolving like a spoon-bait; scuffling and flapping, and uttering shrill cries of alarm and distress.

Miss Porchester put up her glasses as she lowered her topsail—a blue parasol.

"Why, John, the bird must be bewitched! I will go at once and see Mrs. Carey about it."

The lady marched off to the cottage.

The Doctor, in his broad-brimmed hat, stood, with spectacled nose and hands behind him, gazing at this infatuated fowl, and the more he gazed the more astonished did he become.

The bird had now disappeared behind the willow-tree. It was curious that, with all his experience of boys and their vagaries, the Doctor did not suspect the Dumpling of any complicity in the bird's eccentric movements. It never occurred to him to imagine such a coincidence. He had been a zealous fisherman in his

younger days, and loved dearly to cast a fly upon the dimpling stickles of a fair-flowing stream. Often had he played a fine trout, and exulted in landing it after a difficult contest. But the notion of playing a Cochon China hen with a kite-line had never entered his head, and the idea was altogether so incongruous that the learned man might be excused for failing to entertain it.

So the Doctor turned aside to saunter beneath the trees until his sister returned.

She was absent about ten minutes, for Mother Carey was of a talkative disposition, and made the most of every opportunity for gossip. It was not often that she got the chance of conversation with Miss Porchester: she therefore improved the occasion, and gave that lady a history of the fortunes of her hen-yard during the last few months. She dilated upon the deceitfulness of that hen. Beyond doubt, the bird had for some time past been ailing with softening of the brain, which had developed that tendency to fraud, and had at last culminated in pronounced mania.

"There can't be no shadow of doubt of it, ma'am. The bird's gone stark staring mad. When I lived at the farm years ago, before I married John, we had a sheep took in the same way. And you never, how the poor beast behaved! If he wanted to walk across this room, say, he'd turn over on his back and kick, and get up and tumble forward, and roll and writhe until it made one cry to watch the innocent creature's struggles. And at last father had him killed, and wouldn't let no one eat him, but just buried him in the orchard out of harm's way. And that's what it is with the hen. I knew there was something wrong, for I never see a fowl practise such deceit, as I says to Mrs. Woostford when she come in and says to me, says she, 'Mrs. Carey, why don't you watch that fowl?' and I said, 'I'd scorn the haction, ma'am!' Them's the words I used, Miss, as I might be standing here, and as you might be she, and I had the mop in my hand, and—"

Miss Porchester might have stood there till now, with no prospect of the dame's concluding her speech; but the lady was fain to stem the torrent of words, and so she interrupted it with the remark, "Ah, yes! Well, I suppose it is so. But you had better go and look after the bird, and perhaps you ought to kill it. Good afternoon."

So soon as she was gone Mother Carey put on her bonnet and went out to reconnoitre. She could trace the fowl's progress over the dewy grass, and followed it to the willow-tree. But there the tracks ceased. There were only the marks of a boy's footsteps, and Mother Carey could in no wise connect the fowl's vagaries with any boy.

She therefore returned baffled a second time in her attempt to solve the mystery of her bird's behaviour, in much the same frame of mind as she was when first introduced to the reader. Furthermore, the damp grass had produced an irritability in the corn on her big toe.

Where was the hen meanwhile?

She was still alive, and that is saying a good deal, for the toils of inexorable fate were closing around her: and her life had hung by a thread, not to say a twine cord, before ever we have reached this point in the narrative.

For it must be stated that the Dumppling had left no stone unturned to explain the cause of his failure in the trifle. He had ransacked his brains to find some satisfactory clue to the mystery. He only wished he had tasted the ingredients before using them. After all the bragging about his skill in the art of cookery, to be thus degraded beyond all recovery in the eyes of his admirers! Oh, if he could only find out how the trifle had proved such an abomination! It could not have been the buns or the brandy; the beer could not have made such a difference; the jam was Crosse and Blackwell's; it must have been the eggs! Of course! Why hadn't he thought of it before? One of the eggs must have been ADDLED! That explained it all.

Thus pondered the Dumppling, and as the idea flashed upon his mind he brought down his club with a sounding "thwack" upon the paling of the hen-yard, sending the whole flock into a stampede.

"Hang the old hen!" quoth he. "I'll teach her to lay addled eggs!"

And then his brain, so subtle in devising mischief, suggested that quaint stratagem to capture the offending fowl. On reaching the shelter of the willow he had drawn in the line. He had clutched and pinioned the feathered biped. He had fitted a noose of twine round her neck; he had passed the twine over a branch of the tree. He was on the point of exacting lynch law, when a glance at the terrace had revealed the Doctor standing with intent gaze directed towards the spot. Vengeance must be delayed for the present.

Disconnecting the halter, severing the twine that protruded from the bird's beak, tying his handkerchief round her head, the Dumppling had hustled the hen under his jacket. He had watched till the Doctor left the terrace, and then he had ambled off at his best pace to the wood-yard, and hidden the gagged fowl in the old tea-chest, to await execution at a more convenient time.

Sad indeed was the position of the unhappy bird. With legs tied fast and wings compressed by durance vile, with head, as 't were, in a bag, she lay bewildered in darkness; and if a hen is capable of thought, truly her meditations must have been full of dismal forebodings. By dint of extreme exertion she was, however, able to move her beak and inflate her lungs to a certain extent, by which means she managed to squeeze out a few

disjointed sepulchral squeaks. Her powers increased by practice, and when John Carey passed through the yard on his way to the boot-house he paused at the faint cries of distress fell on his ear.

Deliverance from that cruel bondage was the prompt result. The fetters were loosed, the handkerchief removed, and, after a shake or two, the old hen trotted after her liberator back to Mother Carey's yard, little the worse for her adventure, save that a sensation akin to violent indigestion probably agitated her intestinal regions.

John Carey showed more intelligence than the wiser heads in interpreting the matter. He waited till school was over, and then waylaid the Doctor, to whom he communicated a detailed account of what he had witnessed the evening

before, and gave it as his conviction that Master Bertram had treated the fowl with cruelty and insult.

The Dumppling was sent for, and received a long and impressive lecture from the Doctor and a portentous imposition in the shape of twenty propositions of Euclid, to be learnt and repeated within a week, under penalty of chastisement by default. He was also forbidden to enter the field without a master.

There is reason to believe that the fraternity of the Jolly Guzzlers enjoyed, like the fabled butterfly, but an ephemeral existence, and that the Dumppling did not again attempt to gain influence over his companions at Highfield House by any performances in the art of confectionery.

(THE END.)

THE STAR OF THE SOUTH:

A TALE OF THE DIAMOND FIELDS.

By JULES VERNE,

Author of "The Boy Captain," "Godfrey Morgan," "The Cryptogram," etc.

CHAPTER III.—A LITTLE SCIENCE.

To his honour be it said, the young engineer had not come to Griqualand to spend his time in an atmosphere of

graphical and geological surveys of certain parts of the country, to collect specimens of the rocks and diamantiferous



DACA.

greed, drunkenness, and tobacco smoke. His object was to make sundry topographical analyses on the spot. His first care,

therefore, was to procure a quiet dwelling-place, where he could set up his laboratory, and which would serve as the centre of his explorations in the mining districts.

The knoll on which Watkins Farm was situated soon attracted his attention as a site particularly favourable for his work, far enough away to suffer but little from the noisy proximity of the camp, and at

yarns of Mr. Watkins. Besides, he smoked very little, and drank much less; and take him altogether he was hardly the jolly companion that the farmer had anticipated.

Nevertheless, Cyprien was so straightforward and considerate, so simple in his manner and speech, so well informed and so modest, that it was impossible to meet him frequently without liking him. And

to look upon the gem as a worthless pebble. Cyprien, she could not but see, held much the same opinion on the subject as she did, and this community of sentiment had had no little influence on the friendship which speedily grew up between them. We may say without fear of contradiction that these two were alone in Griqualand in thinking that the sole object of life did *not* consist in finding, cutting, and selling the little stones so keenly coveted among the nations of the earth.

"The diamond," said Cyprien to her on one occasion, "is only pure carbon. It is a fragment of crystallised coal; nothing more. You can burn it like a lump of coke, and it was its property of combustion that first led to the knowledge of its real nature. Newton, who observed so many things, noticed that the diamond refracted light more than any other transparent body; and as he knew that this property belonged to most combustibles, he, with his usual boldness, deduced from the fact the conclusion that the diamond ought to be combustible. And experience proved that he was right."

"But, Mr. Cyprien, if the diamond is only carbon, why does it fetch such a price?" asked Alice.

"Because of its rarity," answered Cyprien, "and because it has only as yet been found in small quantities. For a long time it came only from India, Brazil, and Borneo. And surely you can remember, when you were about seven or eight years old, how it was first discovered in South Africa."

"Oh, yes! I remember!" said Miss Watkins. "Everybody seemed to go mad in Griqualand! There was nothing to be seen but people with pickaxes and shovels prospecting all over the place, changing the courses of the streams to examine their beds, and dreaming and speaking of nothing but diamonds. Young as I was, I can assure you that I was quite weary of it at times. But you say that the diamond is dear because it is rare. Is that its only merit?"

"Not entirely. Its transparency, its brilliancy when it has been cut so as to refract the light, even the difficulty of this cutting, and its extreme hardness, make it a very interesting body for the scientist, and, I should add, very useful in the arts. You know it can only be polished with its own dust, and that it is its peculiar hardness which has caused it to be used for many years for rock-boring purposes. Without its help not only would it be very difficult to work in glass and other hard substances, but the boring of tunnels, mine-galleries, and deep wells would be much more difficult."

"I understand now," said Alice, who began to have a slight respect for the poor diamonds she had hitherto so despised. "But, Mr. Cyprien, this carbon of which you say the diamond is composed in a crystalline state—that is right, isn't it?—this carbon, what is it?"

"A simple body, not a metal, and one of the most widely-distributed bodies in nature," answered Cyprien. "All organic matter without exception possesses it. Wood, meat, bread, vegetables, etc., all have it among their constituents!"

"How strange!" said Miss Watkins. "To think that those bushes, the grass, the tree, the flesh of my ostrich Dada, and my own, and yours, Mr. Cyprien, are all partly made of carbon—like dia-



Cyprien at work.

the same time within an hour's walk of the farthest kopjes, for the diamond field is not more than ten miles in circumference. And so it happened that in the course of a single afternoon he had selected one of the houses abandoned by Mr. Watkins, agreed to take it, and installed himself therein. The farmer was most agreeable. At heart he was thoroughly tired of being alone, and highly pleased to find a young man anxious to take up his quarters close by, and break into the wearisome monotony.

But if Mr. Watkins expected to find in his tenant a mere table companion or a partner in his assaults on the gin bottle, he was very much mistaken. Almost before he had taken up his quarters with his retorts, furnaces, and reagents, almost before the chief articles of his laboratory had arrived, he was out on his geological excursions. Coming home in the evening nearly knocked up with fatigue, with rock specimens in his vasculum, in his satchel, in his pockets, and even in his hat, he had much more inclination to go to sleep than to listen to the sub-fossil

Mr. Watkins soon held him in more respect than any other man he knew.

"If he only knew how to drink! But what are you to do with a man who will not touch the least drop of gin?"

Thus did the farmer conclude his frequent disquisition on his tenant's merits.

Miss Watkins, for her part, found herself suddenly placed on a footing of unrestrained friendship with the young scientist. Finding in him a distinction of manner, an intellectual superiority which she had hardly met with before in her usual circle, she had taken advantage of the unexpected opportunity to complete experimentally the varied chemical knowledge she had obtained by reading scientific works.

The young engineer's laboratory, with its strange-looking apparatus, interested her greatly. She was above all things anxious to learn what she could about the nature of the diamond, that precious stone which played so important a part in the conversation and commerce of the country. In fact Alice had almost come

monds! Is everything carbon in this world?"

"Well, some people have been suspecting something of the sort for a considerable time. And contemporary science is making rapid advances towards some such solution. That is to say, the tendency is to reduce the number of simple bodies and prove many of the old elements to be mere compounds. The spectroscope has lately thrown quite a new light on chemistry, and the sixty-two substances classed hitherto as elements would seem to be but forms of one—hydrogen perhaps—under different electric, dynamic, and calorific forms."

"Oh! you frighten me, Mr. Cyprien, with your long words," said Miss Watkins. "Let us only talk about carbon. Why do not you chemists crystallise it as you did the sulphur in those pretty needles the other day? It would be so much more convenient, surely, than having to dig among the rocks to find it."

"People have often tried to do so," replied Cyprien, "and attempted the manufacture of diamonds by the crystallisation of pure carbon, and to a certain extent have succeeded. Despretz in 1883, and quite recently in England another experimenter, have produced diamond dust by employing a strong electric current in vacuo to act on carbon cylinders free from mineral substances and prepared with sugar-candy. But up to the present the problem has not met with solution that would bring it into trade. Notwithstanding, it may be only a question of time. Any day, perhaps at this very moment, the method of making diamonds may be discovered."

It was thus they talked as they strolled along the sandy terrace which extended by the farm, or, seated under the verandah, watched the stars twinkling in the southern sky.

Sometimes Alice would leave the engineer and return to the house, at others she would take him to visit her flock of ostriches, kept in an enclosure at the foot of the knoll on which Watkins Farm was situated. Their small white heads craning over their black bodies, and the bunches of yellowish feathers ornamenting their wings and tails, interested the young lady, who for a year or more had kept quite a poultry-yard full of the giants.

Ostriches are very seldom tamed, and the Cape farmers leave them in a half wild state, parked in an enclosure of vast extent, surrounded by wire fencing like that in many countries running alongside the railroad. There they live all the year round in a captivity they know not of, feeding on what they can find, and seeking quiet corners wherein to deposit their eggs, which very strict laws protect against marauders. It is only at moulting time, when they throw off the feathers so much in request by the ladies of Europe, that the beaters drive them into a series of enclosures, diminishing in size, until the birds can be easily seized and made to give up their plumage.

This industry has been thriving at the Cape for many years. Every ostrich reduced to slavery brings to his proprietor without further expense a revenue of from eight to twelve pounds, nothing very extraordinary when it is remembered that a large feather of good quality will fetch from two to three pounds, and that even the medium and smallest feathers are of considerable value.

But it was only for her private amusement that Miss Watkins had made pets of a dozen of these huge birds. It pleased her to see them with their eggs, and come up with their chickens to be fed as if they were fowls or turkeys. Cyprien often accompanied her to the ostrich yard, and amused himself by stroking the best-looking of the lot, a certain black-headed ostrich with golden eyes—that very Dada who had swallowed the ivory ball which Alice used for darning on.

Little by little there had grown up in Cyprien a feeling of much depth and tenderness towards the young lady. He had persuaded himself that never would he find a companion more simple-hearted, more intelligent, more amiable, or more accomplished in every way to share his life of labour and meditation. In fact, Miss Watkins, having lost her mother very early, had been obliged to take charge of her father's house, and was an accomplished housewife, at the same time as a true woman of the world. It was this curious mixture of perfect refinement and attractive simplicity that made her so charming. Having none of the silly scruples of so many of the young ladies of Europe, she was never afraid of soiling her white hands in the paste for the pudding, or of superintending the dinner, or keeping the linen in proper repair. And all this did not hinder her from playing Beethoven's sonatas as well as, and perhaps better, than most people, from speaking two or three languages, from taking pleasure in reading, from appreciating the masterpieces in literature, and finally from being eminently successful at the little weekly assemblies among the rich farmers of the district.

And ladies of high education were not so few as at first might be supposed. In the Transvaal, as in America and Australia, and in all new countries where the hard work of civilisation falls on the men, intellectual culture is almost the exclusive monopoly of the women, and it frequently is the case that in general knowledge and artistic refinement they are the superiors of their husbands and sons. It has happened to many a traveller to discover, not without surprise, in a wife of an Australian squatter or a miner of the Far West, a musical talent of high order associated with profound literary and scientific knowledge. In the Orange Free State, where the education of the girls has for years been the same as that of the boys, and where the girls stay longest at school, this contrast is everywhere most marked. The man is the breadwinner, and, as his share, takes the toil and danger incident to a life in the open air; the woman takes the domestic cares and cultivates the arts and letters, which her husband despises or neglects.

And sometimes a flower of beauty blossoms in the desert, as in this case of Farmer Watkins's daughter.

Cyprien had said all this to himself, and, as he always went straight to the mark, he had no hesitation in making his request.

Alas! great was the fall in his hopes. For the first time he saw the almost impassable gulf which separated him from Alice, and heavy was his heart as he returned from the decisive interview. But he was not the man to give up to despair. He was resolved to fight his way in the world, and in his work he had a sure solace for his grief.

Taking his seat at the small table, he finished, in a quick firm hand, the long confidential letter which he had begun in the morning to his revered master, Mr. J—, member of the Academy of Sciences, and titular professor at the School of Mines.

"One thing," he wrote, "I thought better not to put in my official memoir, because it is as yet only a hypothesis, and that is, the opinion I have been led by my geological researches to entertain on the subject of the diamond's formation. Neither the hypothesis that assumes it to be of volcanic origin nor that which attributes its appearance in the beds to violent disturbances satisfies me any more than it does you, my dear master, and I need not repeat the reasons which led us to abandon it. The formation of the diamond in situ by the action of fire is likewise too vague an explanation to satisfy me. What was the nature of this fire? and why did it not affect the limestones of all kinds which are invariably met with in diamantiferous deposits? The idea seems to me quite childish, and on a par with the theories of the vortices and hooked atoms."

"The only explanation which satisfies me, if not entirely, at least in a certain degree, is that of the transportation by water of the gem's elements and the subsequent formation of the crystal in position. I have been much struck with the peculiar outline, almost identical in all cases, of the different beds which I have noted and measured with great care. All more or less are in the general form of a basin, or rather, considering the shape of the overlying strata, that of a hunting-flask on its side. This appears to have been a reservoir of from thirty to forty thousand cubic yards in extent, in which there has been a deposit of sandy conglomerate, of mud, and of alluvial earth laid down on the older rocks. This character is very marked at Vander-gaart Kopje, one of the most recently discovered of the diggings, and which belongs, by the way, to the owner of the house in which I am writing."

"When a liquid containing bodies in suspension is poured into a cup, what happens? The bodies arrange themselves at the bottom of the cup or round its sides. That is exactly what has happened in this kopje. It is at the bottom and in the centre of the basin as well as round the outer edges that the diamonds are met with. And this is so well understood that the claims between rapidly fall to a lower value, while the central concessions or those bordering on the boundary enormously increase as soon as the shape of the deposit is made out."

"Besides, several circumstances that you find mentioned in my memoir tend to show the formation of the crystal in position rather than its transport thither in a perfect state. To mention only two or three, diamonds are nearly always found in groups of the same kind and colour, which would hardly be the case had they been formed afar and brought thither by a torrent. Frequently two are found together, united but detachable at the least blow. How could they have resisted the grinding and jarring if brought down by water? Again, the larger diamonds are always found under the shelter of a rock, which seems to show that the influence of the rock—its radiation is heat, if nothing else—has helped on the crystallisation."

It is rare—very rare—that large and small diamonds are found together. Whenever a large specimen is discovered it is almost always isolated. It is as if all the adamantine elements in the depression had been concentrated into a single crystal under the influence of special causes.

“These and many other reasons urge me to think that the diamond is formed in position, and that the elements of crystallisation were brought down to the spot by water.

“But whence came the waters which bore down the organic detritus destined to be formed into diamonds? This I

have not yet been able to determine in spite of my careful study of the district.

“The determination, however, may prove of some value. If we can find the route taken by the streams, why should we not in tracing it up arrive at the starting-point whence came the diamonds? and there we should doubtless find them in large numbers compared to that in the beds at present worked. It would be a complete demonstration of my theory, and one that I should be very glad to make. But it will not be my lot to do so, as I have nearly completed the period for which I was sent out. I have been more successful in my analysis of

the rocks—” and the young engineer, continuing his story, plunged into technical details, which, though doubtless of much interest to himself and his correspondent, are hardly likely to please the uninitiated reader.

As soon as he had finished his long letter, Cyprien extinguished his lamp, stretched himself in his hammock, and slept the sleep of the just.

Work had driven out grief—at least, for an hour or so—but a pleasing vision haunted the young student's dream, and seemed to whisper that there yet was hope.

(To be continued.)

OUR CRICKETING GUESTS.

(Continued from page 35.)



ONE of the most noticeable events of the Australian tour was the match with the M.C.C. and Ground, when the club score showed three individual amounts of over a hundred—those of Messrs. W. G. Grace, A. G. Steele, and Barnes—one of 72, that of Mr. T. C. O'Brien, and, reaching the large total of 481, proved able to win the match by an innings and 105 runs, and satisfactorily wipe out the memory of their fluky defeat in 1878. The curious one-day match at Birmingham, in which such small scores were made, was also of some interest as being an almost exact reproduction of the famous M.C.C. encounter of six years ago. Following the Aston Park meeting came the expected defeats of Derbyshire and Lancashire, and the well-fought contests with Yorkshire and Notts, each won by three wickets—results, particularly in the latter case, due to exceptional good fortune. The decisive victory over Cambridge was balanced by the equally decisive defeat by the North; and then came the Liverpool match, in which fortune certainly did not smile upon the visitors, and in which the resistance, as later on at Huddersfield, was out of all proportion to the paper strength of the team. The return match with the Gentlemen at the Oval was distinguished by the collapse of the English tail and the really fine play of the Australians; that against the so-called Players of England—with Notts standing out—by Spofforth's great feat of capturing thirteen wickets for 123 runs. The Huddersfield mystery followed, and then came the first meeting between England and Australia in the swamp at Manchester. Leicestershire and Middlesex proved easy victims to their visitors, and then came the great match of the tour—the only played-out encounter between England and Australia—in which the Australians, with everything in

their favour, were easily defeated. After only just escaping an unexpected beating at the hands of Sussex, the team returned to London to triumph over a very weak eleven of Players at the Oval, and they then started for Canterbury, to experience a surprise in the shape of a defeat from the men of Kent. The Clifton fixture with Gloucestershire followed, and, the weather being perfect, the scoring proved too heavy to allow the match being played out, the same fate awaiting the England match at the Oval, in which Murdoch made 211, McDonnell 103, and Scott 102, and the total reached 551, the second highest score obtained by the Australian team in England. In this match every member of the England eleven was tried as a bowler, and one man—Dr. W. G. Grace—filled in succession every place in the field. The last wickets fell with the Hon. Alfred Lyttelton bowling and the champion keeping wicket! In the first innings of England there occurred, to the surprise of both fielders and spectators, that very rare event in a first-class match, a palpable error on the part of an umpire in a “run out” decision. The next match was against Gloucestershire at Cheltenham, and the western county were decisively beaten; and then came the second Nottingham encounter, luckily drawn by the Australians when going heavily against them. Cambridge University were then met and duly triumphed over; then a team hardly worthy of the name of the South of England were beaten at Gravesend, then the North of England gained another victory at Nottingham; then followed the usual foregone conclusion with the Zingari, and then, with a decisive defeat of a very poor eleven of Southerners at the Oval, the long season terminated—a season carried out throughout with wonderful pluck and endurance, and one that will not soon be forgotten in cricket history.

In another sphere the visit of the Philadelphians was even more successful than that of the Australians, and promises to be at least as productive of good for the game. The programme arranged for the Americans by the secretary of the M.C.C. was not a very ambitious one, but it was got through with singular smoothness, and the record of eight wins, four losses, and five draws is a sufficient proof of the accuracy with which he gauged the form of the visitors. The round began on June 2nd with the drawn match against Dublin University; then followed the defeat of the Irish Gentlemen by six wickets. Edinburgh was then visited, and the Scottish Gentlemen gained a five-wickets victory; a draw followed at Scarborough, and then came the trial match with the M.C.C. at Lord's, when owing to an accident the team were not seen at their full strength and were easily defeated. The “Cheshire Gentlemen” were then defeated at Stockport, the “Leicestershire Gentlemen” at Leicester, and the

“Gloucestershire Gentlemen” at Cheltenham after the “Hampshire Gentlemen” had scored successfully at Southampton. A draw followed against the Lansdown Club and a win against the Castleton at Rochdale. The “Gentlemen of Liverpool” were then defeated by 4 runs, the “Gentlemen of Northumberland” by 96 runs, and the “Gentlemen of Derbyshire” drawn against. The Americans then beat the “Gentlemen of Surrey,” and were beaten by the “Gentlemen of Sussex” and the “Gentlemen of Kent,” and with the drawn match against the Services at Portsmouth the visit terminated.

Four centuries were made during its continuance—two by W. P. Stoevers, one at Stockport, one at Scarborough; one was made by W. Brockie at Scarborough; and another, the highest of the tour, by the captain, R. S. Newhall, against the Gentlemen of Cheshire.

The general batting average of the team was 18, the general bowling average 21. We append the detailed return:—

BATTING AVERAGES.

	No. of Inns.	Times out.	Most runs.	Most Inn.	Aver.
Newhall, R. S.	29	2	836	126	30.56
Scott, J. A.	30	2	851	93	30.11
Thayer, J. B.	30	1	817	93	28.5
Stoevers, D. F.	18	1	357	106	24.0
Brockie, W.	22	3	369	113	19.8
M'Nutt, H.	21	6	279	75	18.9
Law, S.	20	4	385	55	17.11
Brewster, F. E.	24	0	411	70	17.5
Fox, H. M.	11	2	129	24	14.3
Clark, E. W.	24	2	290	46	13.4
Morgan, W. C.	25	1	290	59	12.2
Newhall, C. A.	18	1	198	43	11.11
Brown, H.	14	2	121	43	10.1
Lowry, W. C.	20	9	105	14	6.3

* Signifies not out.

BOWLING AVERAGES.

	Inns.	Overs.	Mdns.	Runs.	Wkts.	Av.
Lowry, W. C.	30	688.1	192	1399	110	12.79
Fox, H. M.	7	125	47	202	15	13.7
M'Nutt, H.	23	400.2	198	587	39	15.2
Clark, E. W.	18	221.1	96	369	21	17.12
Newhall, C. A.	17	380.2	168	688	36	19.4
Thayer, J. B.	17	217	71	469	22	21.7
Brewster, F. E.	17	279.1	115	508	22	23.2
Law, S.	21	265.3	127	446	15	29.11
Stoevers, W. P.	10	110.3	47	217	5	43.2

Some of the results of these two visits are already apparent. An invitation has arrived for a gentlemen team to visit America, and a team of thirteen professionals, consisting of Shaw, Shrewsbury, Barnes, Flowers, Sefton, and Attewell of Notts, Ulyett, Bates, Hunter and Peel of Yorkshire, Briggs of Lancashire, Read of Surrey, and James Lillywhite of Sussex, are now on the seas for the Orient on their way to Australia, and due at Adelaide on the 1st of November.



WHEN autumn tins the trees with cold
And leaves fall fluttering from above,
When noons are warm and mid-nights cold,
And shortened days show summer's done,

Then is the time to seek the fields
Where late the heaped-up sheaves were seen,
The stubbly land still kindly yields
An aftermath to those who glean.

Dame Nature now fulfils the pledge
She gave the world when yet 'twas Spring;
See where on ev'ry bush and hedge
The berries on their slim stalks swing.

Nor will your search for nuts be vain—
Why, then, return to smoky town?
Though summer days are on the wane,
Wait till the leaves have all dropped down.

GREAT AFRICAN EXPLORERS.

BURTON, SPEKE, AND GRANT.



Captain J. H. Speke.

WITH Du Chaillu we bid farewell for a time to the west coast of Africa, and betake us to the east, where, in 1854, Captain Burton made his famous journey to Harar. Few more daring things have been done by this extraordinary man than the dash into Somali Land with which he began his African career. Somali Land stretches along that strip of coast between Abyssinia and Cape Guardafui, facing Aden and looking to the north; and at Zeyla, in the western corner, Burton landed on 29th November.

Harar—the ancient metropolis of a once mighty race, the only permanent settlement in Eastern Africa, the renowned seat of Moslem learning, a walled city of stone houses, possessing its independent chief, its peculiar population, its unknown language, and its own coinage, the emporium of the coffee trade, the headquarters of slavery, and the birthplace of the Kat-plant (*Catha edulis*), the chewing of which gives so many of the Arabs their hilarity and wakefulness—was his goal. Captain J. H. Speke, of Victoria fame, who had been collecting in Thibet, was associated with him in this exploring enterprise, and devoted his attention to the Wady Nogal. Burton's description of his march is, of course, splendid reading. At Gudnigaras he came up with a whole tribe on the move. It consisted of a hundred and fifty spearmen with their wives and children. With them went two hundred cows, seven hundred camels, and eleven or twelve thousand sheep and goats. The sick were carried on the camels with their legs sticking out from the hide coverings, and the household goods were packed on dromedaries, and led along by young girls followed by the mothers carrying the babies, and helped in doing so by the little ones.

With this party he travelled for a short time, and then "the old man who knows knowledge," as the women called him—he can speak nine-and-twenty languages—struck off for Harar through the tangled aloes, ragged thorn, and prim-looking poison-trees, the "wabas," from which the Somali poison their darts and arrows. He made his way up the Halimalah valley, whose surface glistens with flakes of mica and pebbles of quartz, and where grow the thorny jujube-tree with whose burning branches the women smoke their hair, and the still more spiky kedi, whose thorns yield the Bedouins their hatchet-handles. He crossed the Marai plateau, where he found the villagers keep-

ing harvest-home, and at last came in sight of the three grey minarets of Harar—the Timbuctoo, or Timbuktu as it is now the fashion to spell it, of the East. His interview with the Amir has its parallel with that of Vambery with the Khan of Samarkand, the danger in each case in penetrating into a stronghold of Mohammedan fanaticism being enormous. Burton, however, notwithstanding that he heard the people in the streets whispering that he had been ordered to be killed, escaped unscathed, as he did from Mecca in 1853, where, disguised as a Moslem, he made his dangerous pilgrimage to the Kaaba.

Leaving Harar, which is a city of great age—having been founded in the seventh century by the Arab invaders who built up the Zeyla empire—and inhabited by a distinct race of its own, who speak a tongue unintelligible to all but its citizens, he journeyed back to the coast, to Kurayat and on to Aden. The next year, in company with Speke, who had been unsuccessful up the Nogal, and two other officers, he returned to Berberah. Here, at three o'clock in the morning of the 9th of April, the Somali broke into the camp, murdered Lieutenant Stroyan in cold blood, and attacked the other three. In the gloom of the morning a terrible fight took place. Burton was armed with a sabre only, and with this he cut down his assailants, while Speke and Herne fought one on each side of him. Together the three forced their way with safety, though Speke was felled by a blow on the chest, and escaped only after being speared several times, once clean through his right leg.

And now begins the most famous chapter in African exploration—the discovery of the great lakes. Livingstone, in 1849, had discovered Ngami, a narrow sheet about fifty miles long and of little importance in the physical geography. About seven years afterwards one of the German missionaries had from the slopes of Kilimanjaro caught sight of a large sheet of water to the west. This was the first ascent of the great African mountain to solve whose mystery Mr. H. H. Johnston, of Congo fame, has now set out. Kilimanjaro rises to nearly twenty thousand feet, and forms the highest peak in equatorial Africa, though Kenia and the almost mythic Doenyo Ngai may nearly equal it.

To explore this inland sea reported by the missionary, Captain Burton, who had been through the Crimean War as chief of the

staff to General Beatson, started in 1857. His second in command was Captain Speke. Reaching Zanzibar, and finding the season then unsuitable for a journey into the interior, they occupied themselves for some time in exploring the adjacent coast districts. In June they started, and of course this, the first organised exploring expedition from Zanzibar, met with immense difficulties. They made their way over the mountains to Ugogo, and entered the Land of the Moon at Razeh.

Burton was stricken with the palsy, Speke with ophthalmia; but still they pressed on, determined to reach the mysterious water of which rumours confirmed the existence. At last, on 13th February, 1858, from rising ground the natives showed them—or rather him, for Speke could not see—a silver streak in the distance, and told them it was the long-sought lake. Writes Captain Burton:

"I gazed in dismay; the remains of my blindness, the veil of trees, and a broad ray of sunshine illuminating but one reach of the lake, had shrunk its fair proportions; but advancing a few yards the whole scene burst upon my view, filling me with admiration, wonder, and delight. Nothing in sooth could be more picturesque than this first view of Tanganyika Lake as it lay in the lap of the hills in the gorgeous tropical sunshine, its clear waters gleaming against a background of steel-coloured mountains."

As long as from Aberdeen to Dover, and thirty miles across, the dimensions of the lake exceeded all their anticipations. Soon they reached Ujiji, the first Europeans to enter that now well-known town, and then they endeavoured to get afloat on the inland sea. The native chiefs, however, were anything but willing to oblige them. Speke crossed to Ukaranga to buy a boat for exploring purposes, but his mission was in vain. At last they procured two crazy canoes, and in them, on 10th April, they embarked and sailed to Uvira, visiting every bay in search of the outlet of the Nile, whose headwater they then supposed the lake to be.

They found no trace of the Nile, and began their return journey to Razeh, whence, while Burton remained to arrange his notes, Speke was sent northwards in search of another large inland sea of which they had heard. Speke hurried on, and on 30th July, 1858, caught a glimpse of an estuary, and four days afterwards, ascending a hill just after dawn, found gleaming before him, with its surface just tinged by the rising sun, that vast sheet of water we now know as the Victoria Nyanza, a worthy rival to Superior, with a bosom large enough for all Scotland to float in. Speke returned to Burton with the news, and the travellers, finding it impossible to thoroughly explore the new lake in their crippled condition, and not feeling quite satisfied of its importance in the Nile problem, struck their camp and made for home.

Speke was soon back on the old track, but Burton, having been appointed consul at Fernando Po, set to work on the west coast. He explored all the way from the Gambia to Saint Paul de Loanda, he penetrated to Abeokuta, ascended the Camaroon, made his way to Benin city, found the cannibal Fans of Du Chaillu, and identified them as the Mpangwe, went up the Congo to the falls of Yellala, surveyed the Elephant Mountains and the whole line of lagoons between Lagos and the Volta, and wound up with a three months' mission to King Yelele in the endeavour to persuade that barbarous monarch of Dahomey to modify the sanguinary customs of his race.

Speke's expedition was to survey the Victoria Lake, and to prove his contention that it was the true headwater of the Nile. With him, as second in command, went Captain (now Colonel) J. A. Grant. The explorers made their way out to Mozambique, and left there in the Brisk for Zanzibar. The very next day a slaver was sighted, and an exciting

chase ensued. The slaver was captured. She proved to be the Sunny South, alias the Mamela, and out of her was taken the nice little cargo of five hundred and forty-four slaves.

The chronicle of the expedition is somewhat monotonous. Nothing of much excitement occurred, the struggle throughout was one against wearisome delay and disheartening greed. The various monarchs through whose territories the explorers passed vied with each other in their extortions. Kazeh was the first point to which they made, and again Speke found himself in that strip of fertility between the fives where grow all the necessities of life, and which everywhere throughout the world is bounded by the desert band that shuts off the torrid from the temperate zones.

They reached the borders of the lake, and met the first king at all worthy of the name in Rumanika, the Monarch of Karague. While they were with him he behaved like a courteous gentleman, was quite satisfied

with the presents offered, and even checked one of his ministers when he hinted that he should so like a gun. His majesty was delighted at a Jumping Jack Captain Grant made for his children, and wished to have one life-size. When pressed for a list of the presents he would like in the future, he gave them in the following order: an American clock with a face like a man's to roll its eyes at every beat of the pendulum, a Jack-in-the-box, a milk-pot, a carriage and horses, and a railway!

At Rumanika's court Christmas, 1861, was spent, and in February, 1862, the expedition reached King Mtesa at Uganda. Here a long stay was made. Speke taught the king to shoot, and rose in high favour; and it was only by explaining the advantages of opening out the northern road for trade that he was suffered to depart from that well-governed kingdom—for, for an African kingdom, Uganda is really kept in excellent order.

To coast along the lake, and so find the Nile's outlet, was not permitted them, and

the explorers had to be content with marching parallel with the shore, and being brought round to view from below the Ripou falls, where the river issues. Following the river for a short distance, they struck off from the bend, making their way with much difficulty through Kamrasi's country, passed in latitude $3\frac{1}{2}$ the tree marked with the name of Miani (the Venetian who till then had been farthest up the Nile, and claimed that he had cut his name in latitude 2), reached Gondokoro, and rushed into the arms of Samuel Baker, who was on his way to the south in search of them.

Fully satisfied that they had discovered the headwater of the Nile, they reached home. It was left to Baker to show that the solution was not so simple as they had imagined, and that by leaving the river at the bend they had missed one of the chief features in the mystery, and left unseen another lake with an area of over six thousand square miles, of which their river was the feeder.

STRANGER THAN FICTION;

OR, STORIES OF MISSIONARY HEROISM AND PERIL.

THE BISHOP OF THE ANTIPODES.



Bishop Selwyn.

CHIEF among missionaries in the permanent success which attended his labours ranks Bishop Selwyn, of New Zealand and Lichfield. A man of many gifts, of boundless energy, and brilliant accomplishments, he is amongst the most conspicuous servants of the Gospel in these modern days. From boyhood to old age Selwyn's character was the same; everything that came to his hand he could do, and do right well. His flock considered he was a born missionary; his clergy spoke of him as a pattern bishop; the soldiers held that he would make a first-rate general, and the sailors—well, the opinion of the sailors is best expressed by the saying of an old sea captain—"It is enough to make a man a Christian to see the bishop handle a craft!"

He was born at Hampstead in 1809, the son of Selwyn, the famous lawyer, who was the law tutor of the late Prince Consort. He was one of three brothers, all of whom rose to eminence—one became Lady Margaret Professor of Divinity, another Member of Parliament for his University and Lord Justice of Appeal, and the other, George Augustus, was the subject of this sketch.

After a short stay at a private school he was sent to Eton, where he boarded in the same house with Mr. Gladstone. He had a

most distinguished career. Clever, handsome, and athletic, he carried all before him, and out of school and in school won golden opinions. In boating, swimming, and cricketing he had no superior, and his influence was always used for good. Among the boys of his division of the school he effectually put down profane language, and in many other ways did much for his fellows. He left Eton for Oxford, and his success at work and play went with him. He rowed in the first University Boatrace—that at Henley, when Oxford won easily. In one of his letters, in speaking of this contest, he says:—"I was in the race of 1829. The great benefit of our rowing was that we were—by rule, if not by inclination—habitually temperate; and I suppose all medical men will agree that little danger can arise from strong exercise in youth if the body is always kept in a fit state. Active exercise, combined with strict and regular habits, had, I think, a most beneficial effect upon the constitution, and certainly enabled Bishop Tyrrell and myself, on horseback and foot in Australia and New Zealand, to make very long journeys without inconvenience. My advice to all young men is, in two sentences—Be temperate in all things, and *Incuuibite remis*—bend to your oars."

He came out highest but one in the classical

tripos, and after gaining his Fellowship settled at Eton as a private tutor. In a few years' time he was appointed to New Zealand as its first bishop. The see had been offered to his elder brother, the professor, who had declined it, and the offer had come next to him.

He was the very man for the position. He realised at once the nature of the country to which he was going, and prepared accordingly. On his voyage out in the *Tomatin* he made himself master of seamanship and navigation, and obtained a working acquaintance with the Maori language. He began his career as he intended to go on. The *Tomatin* got into Auckland Harbour at midnight; at sunrise the bishop was up and off to land, steering the boat, and the first thing the natives saw of their bishop was his wading through the surf, dragging his own boat to the shore. He called on the Chief Justice; the household was asleep, and so he pushed his card under the door, went for a stroll, and returned for breakfast. On the Sunday a fresh surprise awaited the New Zealanders—the bishop read the prayers in Maori, and preached in the native tongue!

"That's the sort of man we want!" said Captain Hobson, the Governor, and "the sort of man" he really proved to be.

To do any good as a bishop, he saw at once that he must become personally acquainted with those who were in his charge, and so a few days after his arrival he was off on a two-thousand-miles' tour, by sea and land, during which he visited every clergyman and catechist in the colony. After an absence of six months he returned, and before the year was out he was away again.

Of his adventures during these expeditions New Zealand annals are full. No matter what the emergency might be, the bishop was equal to it. When the rivers were flooded and dangerous he swam them with his clothes in a bundle on his back, and his watch and pedometer in a waterproof belt round his waist. As he himself said, he was so much in the water that he was fully qualified to be "Bishop of Bath and Wells!" He could rough it with anybody. On one occasion he was refused admission to a house, and told to take his night's lodging in a pigsty. He cleaned it out, cut his own fern, and lay down to sleep as calmly as if it had been the usual episcopal bedroom. Nothing came amiss to him. He had to be at a certain place at a certain time, and there he was. One of the most famous anecdotes tells how he once returned to Auckland and passed over the site he had chosen for his cathedral with his clothes almost in rags, with his shoes

worn to shreds and tied on to his feet with the leaves of New Zealand flax.

All whom he met felt the charm of his presence; the bishop was always the leader of men that the bishop was expected to be. His "palace" was a cottage built of scoria blocks, and even there he took his share of the roughest settler's work, from cleaning the knives upwards. It is even told how he set to work in his shirt-sleeves and spent a day or so repairing the road. And when the war came he was a nurse and a surgeon as well as a pastor, and carried off the wounded in the thick of the fire.

After seven years of this miscellaneous toil he had reduced his diocese into proper working order, and could devote his attention to the Polynesian Islands, over which a mistake

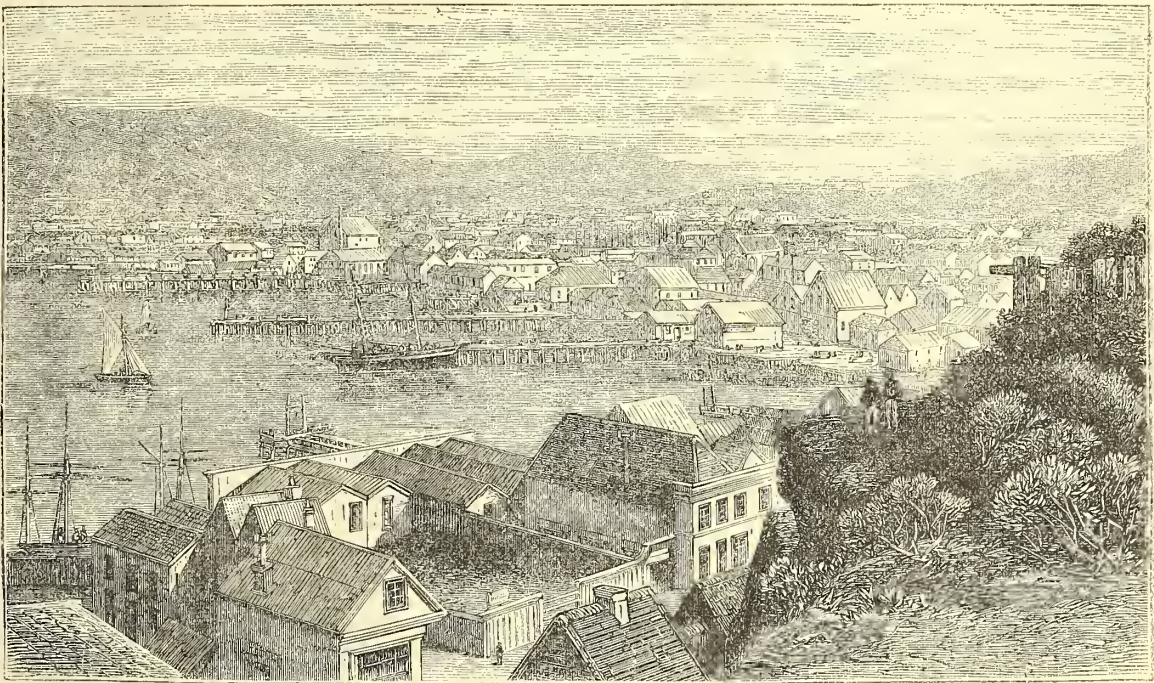
one of them asked, "What's that schooner that has come in this evening?" to which the other replied, "Oh! that old fool the bishop's." Just then the dingy grounded on the shore, and, rubbing his hands and chuckling, he jumped out of the boat, saying, "Yes, and here's the old fool himself."

One of those who served under him has given the following graphic description of his methods during his eighth voyage:—

"Have you any notion of the way in which he conducts his missionary work? Perhaps you fancy that, like St. Augustine landing at Ramsgate, he marches up chanting Litanies in procession. If he did he would probably be killed before he had gone a hundred yards, for there is no Queen Bertha there to have prepared the men's minds and hearts for the Gospel.

nuts, and after a while swims off to his boat. Next year he will go and call out the names of his old friends, get two or three on board, and induce them to take a trip with him while he goes to the neighbouring islands. So he learns their language enough to tell them what he has come for. He returns and lands his guests, with full instructions to tell the people his objects; and the third voyage he finds plenty ready to come off to New Zealand or any other place where he fixes his headquarters."

It is still told round the camp-fires how, during Cameron's New Zealand War, the bishop every Sunday rode from camp to camp to conduct his eight services, and how the officers used to wait for the smoke of the rifle and the "ping" of the bullet as the crowds



Wellington, New Zealand.

in his patent—giving him an extra sixteen degrees of latitude—had made him supreme. In his twenty-ton schooner, Undine, he started for the Islands in 1848, and in her took a voyage of three thousand miles. In 1849 he had another cruise, and brought back with him five little children, who were the forerunners of the native clergy of Melanesia; and the same year he went away to Erromango, in company with the Sydney racing yacht Phantom. He was a born seaman, and knew instinctively the humouring that a ship required. One captain of a brig admirably relates how, on a certain Sunday, when the bishop was on board, his grace noticed in the middle of the service that the vessel was not doing her best on the tack she was on, and, giving the master mariner a look, stopped before the Communion till the men had put her about, and all had hastened aft to resume their attention. Once, at New Caledonia, the schooner ran aground, and the officers of a French man-of-war were astounded to see the Bishop, as no diver was handy, coolly strip to his jersey and trousers and jump overboard to look up what damage had been done. No wonder that when, next day, the bishop dined with them the gallant Frenchmen sent him away with a salute of eleven guns!

During the first ten years of his episcopate he was most unpopular in Wellington, though later on there was no place where he was more highly esteemed. Landing late in the evening in a little dingy, he heard two men on the beach talking about his schooner, and

In due time, may be, he will chant his Litany and Te Deum there. But on first invading the land, or lagoon, he has to make a favourable impression on the people's minds by presents and by letting them see that he has not come to trade. This he does by leaving his boat ten or twenty yards from the reef, where some hundred people are standing and shouting. He then plunges into the water, arranging no end of presents on his back, which he has been showing to their astounded eyes out of the boat. He probably has learnt from some stray canoe or a neighbouring island the name of the chief. He calls out his name; he steps forward; the bishop hands him a tomahawk, and holds out his hand for the chief's bow and arrows. By this Glaucus and Diomedes process he wins golden opinions, at all events. The old chief, with innate chivalry, sends the tomahawk to the rear to show that he is safe, and may place confidence in him. The bishop pats the children on the head, and gives them fish-hooks and red tape, for there is an enormous demand for red tape in these islands. Probably then the bishop has some 'tame elephant' with him—a black boy from some other island—and he has clothed him and taught him to read or the like, and he brings forward this specimen and sample, and tries to make them understand he wants some of their boys to treat in like manner. The bishop gets as many names written down as he can and picks up as many words as he can, establishes a friendly relation, and exchanges calico for yams, perhaps, or cocoa-

of Maori marksmen tried to bring him down while he ran the gauntlet of fire that duty required. With the Maoris, however, he was always popular, and multitudes would follow him when no one else could lead them.

Whether it was preaching to them in their own tongue and guiding them to the Saviour, or calming their excited political passions with a sensible speech ending with

Ka tangi te riroriro,
Kei te ahi au tamariki!

—the native "Lady-bird, lady-bird, fly away home!"—he was always listened to with attention and always won hearts; and when, in 1867, he was called to leave New Zealand, and, in spite of his remonstrances, promoted to the diocese of Lichfield, great was the grief of those he left behind. As was well said at the time—

He has toiled, he has tussled, with nature and savage,
When which was the wilder 'twas hard to decide,
Spite of Maori's musket, and hurricane's ravage,
The tight Southern Cross has still braved time and tide;

When lawn sleeves and silk apron had turned with a shiver
From the current that roared 'twixt his business and him,
If no boat could be come at, he breasted the river,
And woe to his chaplain who craned at a swim!

Long, long the warm Maori hearts that so loved him
May watch and may wait for his crossing again—
He has sowed the good seed there, his Master has moved him
To his work among savages this side the main.

In the "Black Country," darker than ever New Zealand,

Mid worse ills than heathenism's worst can combine,
He must strive with the savages reared in our free land,

To toil, drink, and die, round the forge and the mine.

And toil he did, and successfully too; but

Lichfield is not as romantic as New Zealand, and, as space is running out, we must leave the record of his doings in his old English diocese to some future occasion. In 1867 he took the sea; in 1878 he died.

One of the last phrases spoken during his unconsciousness was, "Who is seeing to that work?" and with that phrase we end our notice of the great bishop of the Antipodes.

which was worn over the metal mail to avert the heat of the sun. On the shield is seen an early example of heraldry. On a lozenge diaper are displayed two inverted chevrons, over which is an escarbuncle. The sollerets are "pointed" at the toes; also notice that the spurs have a single prick without rowels, a fashion peculiar to this period. Geoffrey de Magnaville was Hereditary Constable of the

ARMOUR IN HISTORY AND ROMANCE.

BY JOHN SACHS.

CHAPTER III.

IN the Old English manuscripts the men all carry spears instead of umbrellas and walking-sticks, as we do. We were then a nation of soldiers, and accordingly a Saxon grave generally contains the spear-head and its ferule, with the staff of ash more or less decayed, and on the other side a small sword, between the legs the remains of a shield, the umbo or central boss, and sometimes an iron cap.

One of these helmets or caps has been found formed of ribs of iron radiating from the crown of the head and covered with narrow plates of horn. On the top of the crown there was represented in iron a pig with bronze eyes.

The early illuminators were splendid ornamental draughtsmen, but poor figure artists, as you can see in our next illustration, which is copied from a Vulgate Bible of the date 1170, and represents David and Goliath. The giant has the helmet with nasal-piece similar to that of William in Fig. 8.



Fig. 9.

David and Goliath.

Our page illustrations are, with one exception, from the Artillery Museum at Paris, formed in 1877. They are selections of restored ancient military costumes mounted on models. Fig. 10 is supposed to be the habit

of a common soldier of the time of Charlemagne. He wears an iron cap with protections for his ears and neck of this metal; his cuirass is composed of plates overlapping, a pattern that has been termed tegulated; his shield, with the umbo or boss, is suspended by a strap to his neck; and his legs are wrapped in woollen bands reaching down to the sandal. The boots of this period were often made of horsehair. Of Charlemagne's staff we have already given a more striking description.

Figs. 11 and 12 are attempts to restore the Norman costumes represented in the Bayeux tapestry and other works of that period. Fig. 12 has the nasal piece attached to the helmet. His byrnie consists of rings of metal sewn on to a leather tunic or hauberk. This garment is lengthy, and is partly divided at the bottom to give freedom of action to the legs. The custom of wearing the shield attached to a guige or strap around the neck was for liberty of action when using the long sword with both hands. The round-topped shield of this period is abundantly represented in the Bayeux tapestry.

Fig. 13 represents a Norman knight with the long kite-shaped shield similar to effigies in the Temple Church, London. Underneath the hauberk can be seen a garment embroidered at the bottom. This is supposed to be the "haqueton," a garment of leather quilted on the inside with wool. The cap is of the shape called Phrygian. The nasal-piece to the helmet disappears about 1150, probably from the convenient hold it gave to the enemy. The fact of King Stephen being made prisoner by a knight who held him by the helmet probably hastened an improvement. Here is the story: King Stephen suddenly attacking the castle of Leicester, then held by the Earl of Gloucester for the Empress Maud, Stephen had sat down before it. The earl endeavoured to surprise him by a rapid movement across the River Trent, which forced the king to a battle. Always ready for deeds of valour, Stephen and his knights attempted to convert the attack into a succession of single combats, but their adversaries threw away their lances and advanced sword in hand. The king was seen dealing death on every side of him with his battle-axe, until at last a stone struck him on the head and he fell to the ground stunned; a knight sprang upon him, seized him by the helmet, and shouted, "Hither! Hither! I have got the king!" a circumstance that decided the fate of the encounter, and for a time the destiny of the monarch.

In the reigns of Henry II., Richard I., and John, sculptured monumental effigies and brasses inlaid in stone slabs, valuably illustrate the armour of the times. We find the face unprotected for some years. The chain mail is either drawn over the head, as in Fig. 15, or a sort of helm like an iron pot is used to protect it. Fig. 14 is from the effigy of Geoffrey de Magnaville Earl of Essex, existing at the Temple Church, London. The figure has the curious bucket-shaped helm; he is clothed in mail, over which is a white tunic called "eyclas,"



Fig. 14.

Geoffrey de Magnaville, Temple Church.

Tower of London in Henry the Second's reign. He took part against Stephen with Matilda, was taken prisoner and ransomed. For his liberty he gave up the Tower of London and the Castles of Pleshey and Walden in Essex. In acknowledgment of certain endowments he received the habit of the Order of Templars when dying, and this is probably the reason of his effigy being placed in the Temple Church.

Fig. 15 is interesting because it has an actual date. It is from the monumental brass of Sir John d'Aubernon, A.D. 1277, at Cobham Church, Surrey. The head is covered with chain-mail connected with the hauberk. Notice the knees are relieved from the strain and grating of chain mail by "genouillères," or plates of steel, which is another transition to plate armour. The figure supports inside his right arm a flag called in Norman-French "Gonfalon," on which is painted a chevron. On the left side is a smaller shield than the kite-shaped one. It assimilates in form to the bottom of a flat-iron. This class of shield is indicated by the name of "heater-shaped." It bears a chevron, and this cognisance is also emblazoned on the small shield above.

Between the reigns of Henry I. and Edward I. a barrel-shaped helmet was used, which covered the head. It had cross insertions for sight and breathing (Figs. 16, 17, and 18). Other garments were used by those who could not afford chain mail. Some were of wamberg or leather quilted with wool; others of haqueton or buckskin fitted with cotton (Fig. 17). These were also worn under the mail by persons of distinction. In the latter case the garments were embroidered at the bottom with ornamental designs in silver and gold. Fig. 18 illustrates the costume of a Knight Templar. The last three examples give varieties of the curious barrel-shaped helmet of the period.

(To be continued.)



Fig. 10.
800-827.—Egbert.



Fig. 11.
978-1016.—Ethelred II.



Fig. 12.
1042-1100.—Edward the Confessor,
Harold II., William I. and II.



Fig. 13.
1100-1135.—Henry I.

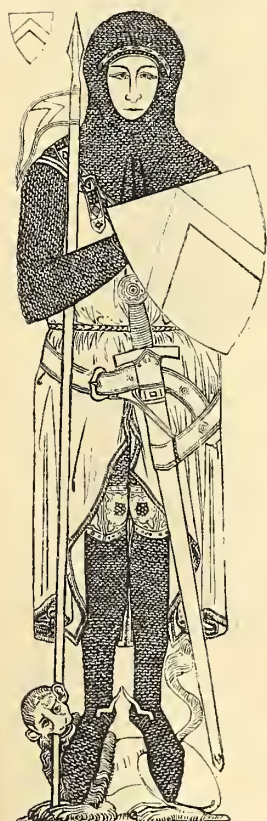


Fig. 15.
1277.—Sir John d'Auberon.



Fig. 16.
1189-1216.—Richard I. and
John and Henry.



Fig. 17.
1216-1272.—Henry III.



Fig. 18.
1272-1327.—Edward I. and II.

GO-BAN.

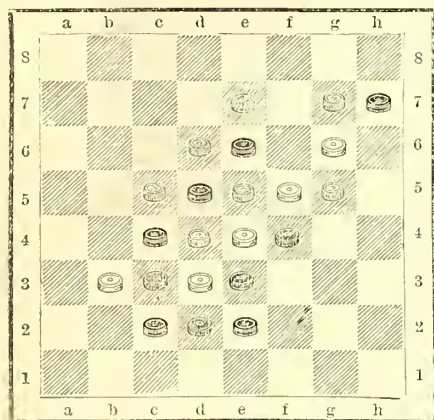
(Continued from page 31.)

GAME No. 2.

Between H. F. L. M. (White) and G. W. S. (Black).

WHITE.	BLACK.
1. e 4.	d 5.
2. d 3.	e 4.
3. f 5.	e 2.
4. g 6.	h 7 (i).
5. e 5.	e 6.
6. b 3.	e 3.
7. d 4.	e 3.
8. e 5.	f 4.
9. d 6.	d 2.
10. g 5.	e 7.
11. g 7.	e 2.

The position is now so interesting that we give it on a diagram.



It appears at first sight that White might now place his last man on h 8 and win. Black would then be obliged to place his last man on f 6. White would continue f 5 g 4, and Black must answer h 7 g 8, and White would now win with e 5 f 5, followed by h 8 h 7, if Black could not play e 7 f 7 and come first in making "five" in the diagonal a 2 g 8. To prevent these "five" of Black, White would have to play g 7 f 7 (instead of e 5 f 5), and then Black could win easily by e 3 b 2, followed by e 3 f 2. White therefore must place his last man so that he can at once stop the approaching line of "five" in the second row. He might place it on f 2, but does better to put it on g 3, and thus compel the last black man to go to g 4. Therefore the game went on thus:

12. g 3. g 4.

All the men are now well placed, and the moving can begin.

- | | |
|---------------------|--------------|
| 13. g 7 f 7. | e 3 f 2. |
| 14. b 3 b 2. | f 4 f 3. |
| 15. g 3 g 2. | f 2 g 3. |
| 16. g 5 f 4. | g 3 h 4. |
| 17. g 6 h 5 (j). | g 4 g 5. |
| 18. g 2 g 3 (k). | d 5 e 6. |
| 19. h 5 g 4 (l). | f 3 g 2. |
| 20. g 4 f 3. | e 6 f 6. |
| 21. f 7 e 8. | e 7 e 6 (m). |
| 22. e 8 d 7 (n). | e 6 d 5. |
| 23. d 7 e 7 = five. | |

NOTES.

(i) These two moves of Black were compulsory.

(j) Must, because he cannot stop the line at d 1.

(k) White now threatens to win by e 5 e 6 and on to e 7.

(l) A good move to go on to h 2.

(m) He ought to have played e 6 d 7, then the game might have proceeded thus: e 8 d 8, d 7 e 7; e 4 d 5, e 7 d 7; d 6 e 6,

e 4 b 5; d 3 e 4, h 4 g 4; e 5 b 4, any; e 5 e 4 = five.

(n) There are now two lines for White, and only one can be stopped.

The third game between these two players

had twenty-four moves, lasted about half an hour, and was won by the second player (M.). The fourth game lasted two hours, had seventy-five moves, and was won by the second player (S.).

"THE AIR THAT LED TO VICTORY."

(See the Coloured Plate.)

LONG coat, cocked hat, and scars a-
The time-worn Chelsea pensioner;
His fife from out his breast he draws,
Amidst his comrades' grave applause.

Ah! when that ancient life was new
What spirit-stirring airs he blew!
They knew them well, those war-worn men;
Their hair had not grown silver then.

And as they listen they can hear
The tramp of horses drawing near,

Can see the steel-clad line advance,
The sunshine flashing from each lance.

They hear the stirring trumpet-blast,
The time to fight has come at last!
Their eager hands are on the rein,
Once more they dash across the plain.

The air is over; then there comes
The memory of muffled drums;
Unbidden rise the silent tears
When sounds "The British Grenadiers."

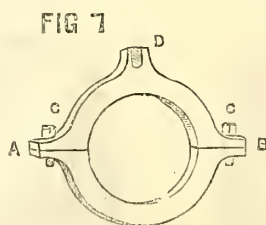
THE "BOY'S OWN" MODEL LAUNCH ENGINE.

By H. F. HOBDEN.

PART II.

THE excentrics may now receive attention. They will require to be chucked twice, and the true centre marked. Do not drill it out yet, as the hole for the crank-shaft must not be in the centre, but half the travel of the slide-valve from the centre. For instance, if the valve travelled one inch you would have to drill hole for shaft half an inch out of true centre of excentric.

The straps (Fig. 7) have to be turned quite



true to the size of the groove on excentrics, then taken out of lathe and cut through line



A B with a fine saw and screwed together at C. A hole has now to be drilled at D and

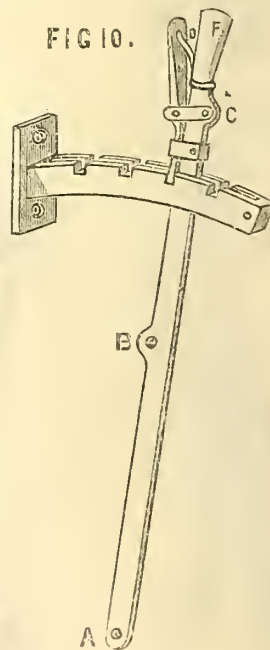
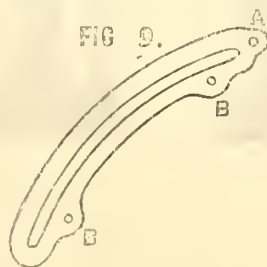


Fig. 8, so as to allow it to work on to the quadrant. It is the neatest way to key the excentrics on to the shaft with a small steel wedge.

The quadrant (Fig. 9) is of brass, and will have to be finished up with a file and emery, and the holes A B B drilled through. The shaft ought to be turned up in the lathe as

well as the fly-wheel and coupler, with a slight groove sunk in where the plunger blocks support it, so as to take the thrust. The bed-plate you have already been told how to cut out in a former paper, as well as the plunger blocks and coupler.

The reversing quadrant with the lever attached I have shown at Fig. 10. It is best cut out of brass. The notches are cut with a

tapped for the excentric rods to be screwed into, one of which will have to be bent like

small file after the two pieces have been brazed together with a small piece an eighth of an inch thick between either end. It is then screwed on to the slide-valve case.

The lever is drilled at A, B, and C with small holes, and can be made of flat steel wire; A is for a pin to work into a joint or hinge on bed-plate. B is attached to the hole A (Fig. 9) by a small length of brass rod, so as to work easily. Cut with a slot at each end and then drilled like Fig. 11.

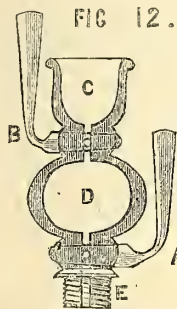
FIG. 11.



The small spring D (Fig. 10) is to keep the ratchet down in place, and is best made from a watch-spring, and the handle F is turned out of some brass wire.

The different-size drills you will require can be easily made from various steel knitting-needles warmed, filed up to shape, and then tempered to a light-straw colour.

We now come to the grease or oil cocks, which I have mentioned before. They can be bought ready finished at most model shops, but for those who like to make everything for themselves this is the way to proceed. Fig. 12 is a section showing interior



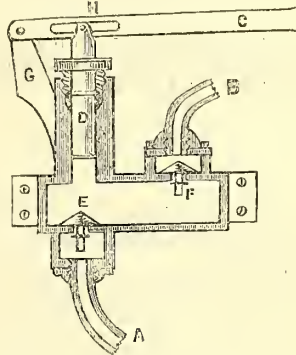
oil chamber that allows the cylinder to be oiled without stopping the engine by turning off cock A and opening cock B, then filling with oil; then shutting B and opening A allows the oil to descend into the cylinder and lubricate the surface.

Now for the method. Chuck a piece of brass wire about a quarter of an inch in diameter in the lathe, and turn up to external shape; then turn out cup C and drill through from end to end with fine drill; then enlarge chamber D with small bent graver, and take out of lathe and drill through at right angles to previous hole at A and B with larger drill; then put plugs of brass wire in and fit them with emery and oil; rivet over one end, and the other turn up into a handle. Then turn them in straight line with the oil-cup, and drill through with the small drill again. Tap the end E, and screw into cylinder cover, when it is finished.

To keep the boiler full of water as the fire empties it by driving it off in steam, the usual thing is to use a force-pump worked by an eccentric on shaft; but, as the friction is excessive, it takes a great deal of power away from a model. It is best, therefore, to work it by a hand lever, and the pump may be screwed on to the side of boat, the suction A (Fig. 13) being led through the boat's side and riveted over, and the supply B brazed

into lower part of boiler. C is the lever, and D the plunger, which must be quite true, and turned up in the lathe; likewise the valves E and F and the stuffing-box tapped and drilled. It is best to work it up from a casting, and the outside smooth down with an old file. The projection G will then have to be drilled and the lever pivoted through,

FIG. 13.

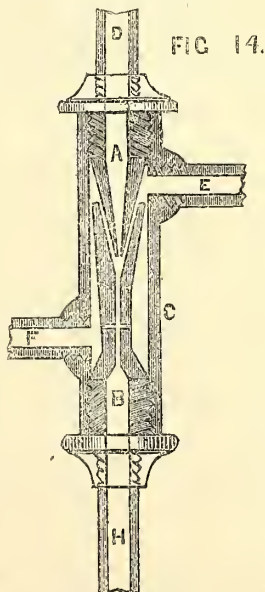


having first cut a slot at H to allow the lever to rise and fall.

I will now describe a method of making an injector, or machine for filling the boiler with water by the power of the steam alone, and not in connection with the engine.

The injector was an accidental discovery by a Mr. Gifford, and has now become a universal favourite on board both large and small craft, as it works splendidly without affecting the engine. So you can run the boiler up with water whilst the engine is at rest in harbour or otherwise. And another great advantage over pumps is that the steam, being mixed with the water, raises it in temperature to nearly boiling-point, and so is a great saving in fuel.

Fig. 14 is a section of the instrument as fit



for model work, and if you will follow these instructions carefully it will act well.

It consists of three parts—the cone A, the cone B, and the casing C. The steam is admitted at D and the water at E, the waste water overflows at F, and the hot steam and water is projected with great force into the boiler through the pipe H, which should be led to the bottom of boiler well below low-water mark, and it is quite imperative that the steam-pipe should come from top of boiler so as to get plenty of dry steam, and must not be tapped on to any other pipe.

The injector can be fastened to side of boat by brass band and screws, and the water-supply pipe brought through the side and riveted as in the case with the pump. The injector will lift water several inches, but it always works better if the water can flow into it freely.

Now we will set to work at it. Take a piece of brass rod and chuck it in the lathe and turn two cones the shape of A and B (Fig. 15). Take them off the lathe and drill A through as far as practicable, and finish with a small rhymer, having first made a small hole right through not larger than a knitting-needle; then tap the port C with an internal screw to take the steam-pipe, and turn a screw on the outside at D.

Now, with the rhymer bore out the conical hollow at E in B, and tap it outside at F and inside at G, in the same manner as the former cone; then drill a small hole right through from end to end, and a smaller one at right angles to the other right through at H. This communicates with the overflow, and takes off the water not carried into the boiler.

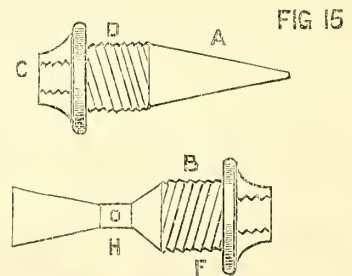
Next take a piece of brass tubing five-eighths of an inch in diameter and turn a screw at each end inside (Fig. 16). The

FIG. 16.



screws turned on the outside of the cones must be the correct size to fit these; then drill a hole at A and screw in a small tube for water-supply with tap; then drill another at B for the waste water to escape by. Finally, screw in the cone A (Fig. 15) and attach it to the boiler by a pipe, and the nearer the boiler the better, as if the steam condenses before reaching the injector it will stop working. The steam-pipe must of course have a tap to cut off steam when not required.

We must now screw in the lower cone B (Fig. 15) until there is an annular space



between the two cones not exceeding a sixteenth of an inch. Then screw in the small pipe at G (Fig. 15), and attach the other end into the boiler below the water-line, where it must have a stop-valve to prevent the water returning.

To start the injector, turn on the water-tap until it runs out of the overflow freely. Then turn on the steam full power, and the overflow will cease, or nearly so. Should it still drip at the overflow, reduce the water-supply by the tap accordingly.

It requires carefulness and patience to make an injector, but when done, and working properly, there are few boys with a mechanical turn of mind who would not think themselves well repaid in watching and controlling its mimic action. They would then have an engine fit to show to their most critical friends, and one they might well be proud of; and I shall be content if I have helped in any way to contribute to their happiness.

(THE END.)



ORILLIA.—Your suggestion that the letters N.B. after an address should be confined to letters intended for New Brunswick, Canada, is an excellent one. There is no real necessity for Scotch letters to be so distinguished, as the large towns are too well known to require it, and the name of the county is always given in the case of the villages.

HERCULES.—1. Strictly speaking, a clipper ship is one with a clipper bow. 2. Cannot say, but the number of guns has nothing to do with it. It is the calibre of the guns you should look at. 3. You can get a cover for the "Boy's Own Annual" from any bookseller by ordering it, or you can get it better through your bookbinder, who requires it to bind the volume. 4. Yachts used to carry guns and fire them off at all hours in a most irritating way; but the practice has fortunately gone out of fashion, and a signal-cannon only is now carried. 5. "Our Holiday Tramp" was in the second volume.

T. S.—The best plan is to get the catalogue of some nautical bookseller. There are several published cruises of smaller craft, such as those of the Osprey, Silver Cloud, Procyon, Orion, and Falcon.

AMATEUR VIOLINIST.—Nearly all the good violin makers and dealers live in Soho. You must choose for yourself. There are frequent sales of musical instruments in Leicester Square and Covent Garden, for notices of which you must scan the daily papers.

H. S. BRIANT.—It is about as impossible for us to reply to correspondents by letter as you would doubtless find it to enter the Navy as lieutenant. It is very kind of you to wish to volunteer, but the authorities prefer specially trained officers, who have passed their examination as cadets in their thirteenth year, and to whom they have taught navigation in their own way.

A. WITTINGTON.—Water-colour drawings should remain unvarnished. The only varnish permissible is one made by dissolving Canada balsam in turpentine, or a paper varnish, so called, which is specially prepared. In such matters, however, sparkle and shine should exist only in a metaphorical sense.

NOEL.—Boy clerks are not examined for particular offices. They are appointed as required.

H. G.—Get the pamphlet on army recruiting from the nearest postmaster.

W. G. C.—There is no such officer in the Royal Navy. Before setting your heart on an appointment you should make quite sure that such an appointment exists.

F. WILBRAHAM.—The subjects for examination are advertised in the newspapers, and a list can at all times be had from the Civil Service Commissioners.

INGOLPH.—Such an institution would be an orphan asylum, and appear in the list in the London Directory or elsewhere.

H. J. EDRE.—1. The Lifeboat Fund has been closed for some considerable time. The boats are placed and at work, and we have nothing more to do with them. 2. Wear woollen socks, loose boots, and keep your feet warm. 3. No.

ODO.—1. Just stretch the skins on a board hair downwards, and tack them on. Give them two or three doings over with the strongest solution of alum you can make, and rub well and scrape till soft. 2. Feed white mice on canary seed only, and give little water. They do not smell so if kept thus.

STUDENT.—1. The "Black Stream" is the Japan current, so called from its deep blue colour. The "Cold Wall" is the boundary line of the Gulf Stream. 2. The best book on the people of the Congo is H. H. Johnston's "Up the Congo to Bolo-bo." 3. The Oopts are generally taken to be the descendants of the ancient Egyptians. 4. It is not known for certain which is the largest island on the globe. Australia has long been transferred to the continents, and you must take your choice between Borneo, New Guinea, and Greenland until they have all been accurately surveyed. 5. The "Plains of Promise" are in Australia, up Carpentaria way.

F. BONNER.—The appointments are restricted to boys from Greenwich School.

A. B. C.—Take the violin to a connoisseur. If it is genuine it is worth something considerable. There is no better maker, but the instrument belongs to his first period. An Anton. Strad. is not met with every day.

TIMOTHEUS.—1. Get the directions with the process, and see for yourself. 2. Not less than eight glasses are required to form the octave, but had you experimented with tumblers and water you would have found out the secret. The more water you put in the glass the higher the note it gives forth. The fingers or corks are best dipped in powdered sugar or some mucilage, so as to cling slightly to the glass.

REGINALD.—"From Powder Monkey to Admiral" was in the first volume, price six shillings. Messrs. De la Rue and Co. are the makers of the anti-stylograph.

E. D. J.—1. We only give a coloured plate with the weekly number once a year, and that on the first week in October. 2. You must choose for yourself. Messrs. Baker, Cary, Browning, Steward, Ladd, etc., are all well-known opticians.

SOUTH AFRICA.—1. Competitors send in from Australia, and that takes even longer. 2. The cash is now always given; never the value unless by special request of the winner. 3. London is so large that it is divided into districts, each of which is practically a post town by itself, and to it the letters go direct. E.C. are the initials of Eastern Central, W.C. of Western Central, E. of Eastern, W. of Western, N. of Northern, N.W. of North-Western, S.E. of South-Eastern, and S.W. of South-Western.

ANXIOUS ENQUIRER.—Refer to No. 202. You will there find the easiest way of skeletonising leaves fully described.

EQUARIA.—You will find articles on the Aquarium, if that is what you mean, in the July and August parts for 1880.

C. CHANDLER.—Forty-four miles is almost too much for a boy to walk in a day. You could probably get a map at the railway bookstall; if not, write to Stanford, Charing Cross, for catalogue, and state the district you wish the map to comprise.

J. SMITH.—1. A highly ingenious theory, but you have forgotten that it is impossible to give all the pros and cons in school books, and that the statements in them are only substantially correct. For instance, the earth is not exactly an oblate spheroid, but only an irregular approach to one, and the measurements of a degree have all been found to vary. The amount of the flattening differs on the opposite sides of the globe. You might also have remembered that the hills and the sea-bed must make a difference in the respective areas. The general fact, however, remains unaltered. 2. Here again London is not quite the centre of the land hemisphere. The actual centre is 50° 30' W., 51° 30' N., or a little south of The Smalls off Milford Haven. An "Universal Empire," with a capital at The Smalls, might afford scope to the scoffer.

EGBERTUS MINORUS.—The articles on Cardboard Modelling were in the December part for 1882 and the January part for 1883.

A WELL WISHER.—The Model Steam Engine articles were in the September and October parts for 1881.

SPECIAL NOTICE.—CHRISTMAS NUMBER OF THE "BOY'S OWN PAPER."



Please to take notice, that this year, as last, we shall issue a

SPECIAL EXTRA CHRISTMAS NUMBER

of the BOY'S OWN PAPER, to consist of sixty-four pages, devoted to Seasonable Stories, Acting Charades, Music, Games, etc., etc., the whole fully illustrated by the best Artists.

This CHRISTMAS NUMBER will be issued with the December Part of the "Boy's Own," and will cost 6d. All our readers should endeavour to secure a copy.

As it is intended to print only a limited number, and it will be impossible to reprint, readers who would ensure obtaining copies are strongly advised to give their orders to the Booksellers AT ONCE, by which means they will of course obtain precedence over the ordinary purchaser. It may be remembered that readers who failed to do this in regard to our last Christmas Number, found themselves unable to obtain it; and the very same thing is of course not at all unlikely to occur in regard to THIS YEAR'S NUMBER, which will not be included in the bound volume.

NEWCOMBE
PIANOFORTES
Have acquired an enviable reputation for excellence in material, workmanship, tone and action, which secures for them a constantly increasing sale.

OCTAVIUS NEWCOMBE & CO.
Warerooms: 107 and 109 Church St., Toronto

DOWN'S' ELIXIR

N. H. DOWN'S'
VEGETABLE BALSAMIC
ELIXIR

Has stood the test for FIFTY-THREE YEARS, and has proved itself the best remedy known for the cure of **Consumption, Coughs, Colds, Whooping Cough and all Lung Diseases** in young or old. **SOLD EVERYWHERE.**
Price 25c. and \$1.00 per Bottle.

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BOARD WANTED
DOMESTICS WANTED
HOUSES WANTED
LOST OR FOUND
MECHANICS WANTED
SITUATIONS VACANT
SITUATIONS WANTED
STRAYED OR STOLEN

On an acceptable nature, and not to exceed 20 words, on the third page of THE DAILY MAIL, are free to all

NO BUSINESS ADVERTISEMENTS INSERTED WITHOUT PAY

It answers fail to come the first time, we invite a second, third, or as many repetitions as are necessary to secure what you advertise for. We wish the advertisers to feel that they are not imposing on us, but are doing us a favor by using our free columns, as we are determined to make

THE MAIL THE MEDIUM

Though which the general public may always have their wants supplied

Advertisers should remember that letters directed to INITIALS ONLY are not delivered through the Post-office. If initials are used they should be directed to the care of some person, firm or Post-office Box. Advertisements can be left at our office, or sent by post to THE MAIL, Toronto.

ALL WORDS OVER TWENTY MUST BE PAID FOR AT THE RATE OF ONE CENT PER WORD FOR EACH INSERTION. The money must accompany the order or the insertion will not be given.

ONE CENT A WORD

Advertisements under any of the following headings, 10 words 10 cents each insertion, each additional word 1 cent

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BUSINESS CHANCES WANTED
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TWO CENTS A WORD

Advertisements under any of the following headings, 10 words 2 cents each insertion, each additional word 2 cents

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EDUCATIONAL
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FARMS TO LET
FARMS WANTED
HOTELS AND RESTAURANTS
MONEY TO LEND
MONEY WANTED
PHYSICIANS AND SURGEONS
PROPERTIES FOR SALE
PROPERTY WANTED
SPECIFIC ARTICLES
SUMMER RESORTS

Advertisements of Auction Sales other than Furniture, or Tender Wanted, will NOT be inserted among Condensed Advertisements in THE DAILY MAIL, but must go on sixth page among other auction sales, and be charged by the number of lines occupied

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New Stock of Dry Goods, Silks, Dresses, Flannels, Jackets, Velvets, &c.

10c. off Every Dollar, all New Stock, at
109 King Street East.
3 Doors east of Church Street.

What is Catarrh.

From the Mail (Can.) Dec. 15.

Catarrh is a muco-purulent discharge caused by the presence and development of the vegetable parasite amoeba in the internal lining membrane of the nose. This parasite is only developed under favorable circumstances, and these are:—Morbidity of the blood, as the blighted corpuscle of ulcer, the germ poison of syphilis, mercury, toxomoea, from the retention of the effete matter of the skin, suppressed perspiration, badly ventilated sleeping apartments, and other poisons that are germinated in the blood. These poisons keep the internal lining membrane of the nose in a constant state of irritation, ever ready for the deposit of the seeds of these germs, which spread up the nostrils and down the fauces, or back of the throat, causing ulceration of the throat; up the eustachian tubes causing deafness; burrowing in the vocal cords, causing hoarseness; usurping the proper structure of the bronchial tubes, ending in pulmonary consumption and death.

Many attempts have been made to discover a cure for this distressing disease by the use of inhalants and other ingenious devices, but none of these treatments can do a particle of good until the parasites are either destroyed or removed from the mucous tissue.

Some time since a well-known physician of forty years' standing, after much experimenting, succeeded in discovering the necessary combination of ingredients which never fail in absolutely and permanently eradicating this horrible disease, whether standing for one year or forty years. Those who may be suffering from the above disease, should without delay, communicate with the business managers, Messrs. A. H. DIXON & SON, 305 King St. West, Toronto, Canada, and enclose stamp for their treatise on Catarrh.



WE make a specialty of good-fitting and very durable boots, their cost is a mere trifle more than inferior goods, while our numerous widths and half-sizes warrant a good fit.

Our Fall Stock very attractive.

Please give us a call.

79 KING ST. E., TORONTO.

SPECIAL VALUE

Mantles, Ulsters, Jackets, and Dolmans,
Fur, Chenille, and Mock Sable Capes
Plain and Braided Jerseys.
Gauntlet Kid, Chamois and Cashmere Gloves
Felt, Quilted, and Knitted Wool Skirts,
Grey, White, and Scarlet Underwear,
Plain All Wool Dress Goods.

French Combination Stripes and Checks,
Black & Colored Silks, Satins & Brocades,
Black & Colored Velveteens and Plushes

We will not be undersold by any house in the trade, large or small, and can therefore guarantee our prices as low as ANY and lower than MANY.

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FRASER & SONS,
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Artistic Photographers.

Cabinets, \$3 per Doz.

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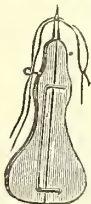
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Fine Toilet Soaps

61 King Street West, Toronto.

SOMETHING NEW!
Novelty Rug Machine.

Patented March 6, 1882.

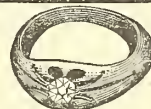


With it you can make a beautiful rug in a few hours that would require weeks of labor with a hook. You can make hoods, tidies, lap-ropes, mittens, door mats, etc. Uses either yarn or rags. Easy to learn, simple, durable and perfect. A Machine, with printed directions, sent by mail, post-paid, to any address, upon receipt of price, one dollar. Agents wanted either ladies or gentlemen, to whom liberal inducements will be given. Address R. W. ROSS, Guelph, Ont., P.O. Box 541, sole manufacturer of the Novelty Rug Machine.

FANCY WORK. We have issued a voluminous work and carefully edited book on **Silk-Knitting, Crocheting and Embroidery.** It has a number of attractive patterns, with full directions for making the fancy work now so much in vogue. We will mail a copy on receipt of 6 cents in stamps.

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Diamond size of cut—Ring made to fit.

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Have become so popular that a million packages a month are being used to re-color dingy or faded DRESSES, SCARFS, HOODS, STOCKINGS, RIBBONS, &c. Warranted fast and durable. Also used for making inks, staining wood, coloring Photos, Flowers, Grasses, &c. Send stamp for 32 colored samples, and book of directions.

WELLS, RICHARDSON & CO.,
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—1884-85—

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All with Scripture Texts or Sacred Verses.

It is now generally known that we are the **Only House in Canada** dealing exclusively in this special line of Xmas and New Year Cards.

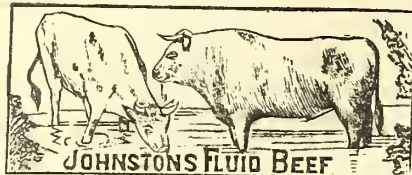
SOLE AGENTS in the Dominion for the celebrated **MILDMAY CARDS.**

This year we have a larger assortment than ever. Complete Descriptive List now ready, and will be mailed free on application.

S. R. BRIGGS,
Toronto Willard Tract Repository.

The "Skrei" Cod Liver Oil, pure, pale, and almost tasteless. No other Oil to compare with it.

Kenneth Campbell & Co.



JOHNSTON'S FLUID BEEF.

This preparation is rapidly gaining public favour. The demand now surpasses that of any Extract of Meat in the market.

THE REASON IS APPARENT.

It is the only preparation of the kind which contains all the nutritious, together with the stimulating, properties of beef, and the only one which has the power to supply nourishment for brain, and bone, and muscle.

GAIN Health and Happiness.

How? DO AS OTHERS
HAVE DONE.

Are your Kidneys disordered?

"Kidney-Wort brought me from my grave, as it were, after I had been given up by 13 best doctors in Detroit."

M. W. Deveraux, Mechanic, Ionia, Mich.

Are your nerves weak?

"Kidney-Wort cured me from nervous weakness, &c., after I was not expected to live."—Mrs. M. M. B. Goodwin, Ed. Christian Monitor, Cleveland, O.

Have you Bright's Disease?

"Kidney-Wort cured me when my water was just like chalk and then like blood." Frank Wilson, Peabody, Mass.

Suffering from Diabetes?

"Kidney-Wort is the most successful remedy I have ever used. Gives almost immediate relief."

Dr. Philip C. Ballou, Monkton, Vt.

Have you Liver Complaint?

"Kidney-Wort cured me of chronic Liver Diseases after I prayed to die."

Henry Ward, late Col. 69th Nat. Guard, N.Y.

Is your back lame and aching?

"Kidney-Wort, (1 bottle) cured me when I was so lame I had to roll out of bed." C. M. Tallmage, Milwaukee, Wis.

Have you Kidney Disease?

"Kidney-Wort made me sound in liver and kidneys after years of unsuccessful doctoring. Its worth \$10 a box."—Sam'l Hodges, Williamstown, West Va.

Are you constipated?

"Kidney-Wort causes easy evacuations and cured me after 16 years use of other medicines."

Nelson Fairchild, St. Albans, Vt.

Have you Malaria?

"Kidney-Wort has done better than any other remedy I have ever used in my practice."

Dr. R. K. Clark, South Hero, Vt.

Are you Bilious?

"Kidney-Wort has done me more good than any other remedy I have ever taken."

Mrs. J. T. Galloway, Elk Flat, Oregon.

Are you tormented with Piles?

"Kidney-Wort permanently cured me of bleeding piles."

Dr. W. C. Kilne recommended it to me." Geo. H. Horst, Cashier M. Bank, Myerstown, Pa.

Are you Rheumatism racked?

"Kidney-Wort cured me, after I was given up to die by physicians and I had suffered thirty years."

Elbridge Malcolm, West Bath, Maine.

Ladies, are you suffering?

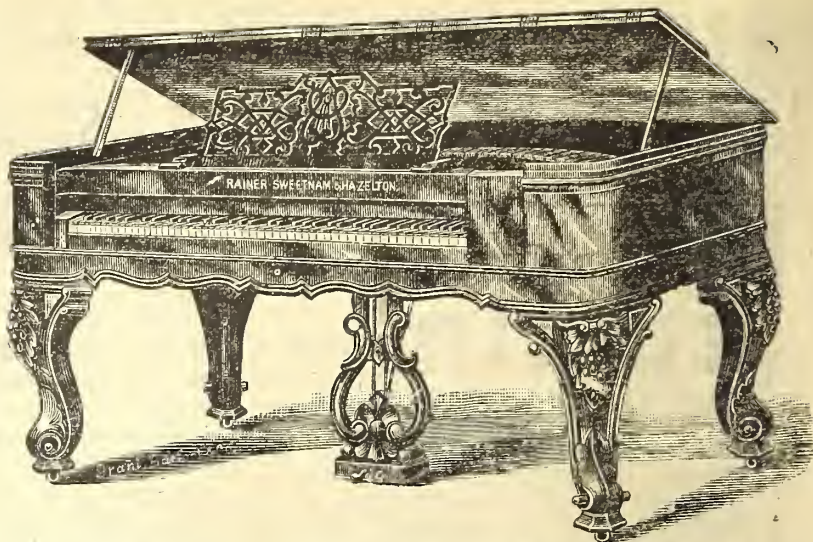
"Kidney-Wort cured me of peculiar troubles of several years standing. Many friends use and praise it."

Mrs. H. Lamoreaux, Isle La Motte, Vt.

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KIDNEY-WORT

The Blood Cleanser.



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MAKES
Sweet and Wholesome Pastry.

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BUY A

A DOMESTIC SEWING MACHINE

AND MAKE HER HAPPY!

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NEVER BE WITHOUT

DUNN'S

THE
**COOK'S
BEST
FRIEND**

**BAKING
POWDER.**

SOLD BY ALL GROCERS.

SCRIVEN, ENG.

A
TREE
that bore
forbidden fruit,
the story goes,
of right pain and death
into the world and all
of mortal woes. There stood
a tree of life and death
within a garden fair, and
pain and sorrow never came
till Satan entered there and
tempted Eve and Adam to eat off
forbidden fruit, and from the
seed more evil trees have grown
and taken root. The sins of our
first parents upon us their children
fall, there's Scrofula and Blood impure
we cannot name them all. The poison
Upas tree, Consumption, is deep-rooted
far and wide, and from many dire
diseases have the sons of Adam died.
is there no balm in Gilead? no antidote
at hand, to heal a poisoned nation?

Yes—we have one at command.
The trees of life are living still
for the invalid's salvation.

We are told "the leaves shall be
for the healing of the nation."
Around us near on every hand
Some humble herb is found.

On trees—
barks, roots
and berries,
of rare heal-
ing worth
abound. The
little plant
which we de-
spise, called
Burdock, is a
cure for Scrof-
ula and Hu-
mors foul, and
blood that is
impure, and
when in Bur-
dock Blood
Bitters, with
many a root
and bark, it
makes a shot
against disease that
always hits the mark.

BURDOCK BLOOD BITTERS, A
PURELY VEGETABLE EX-
TRACT, CURES ALL DISEASES
OF THE

BLOOD, LIVER AND KIDNEYS.



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Thousands are now wearing them.
Also Water Waves, Bangs, Switches,
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SEND FOR PRICE LIST.

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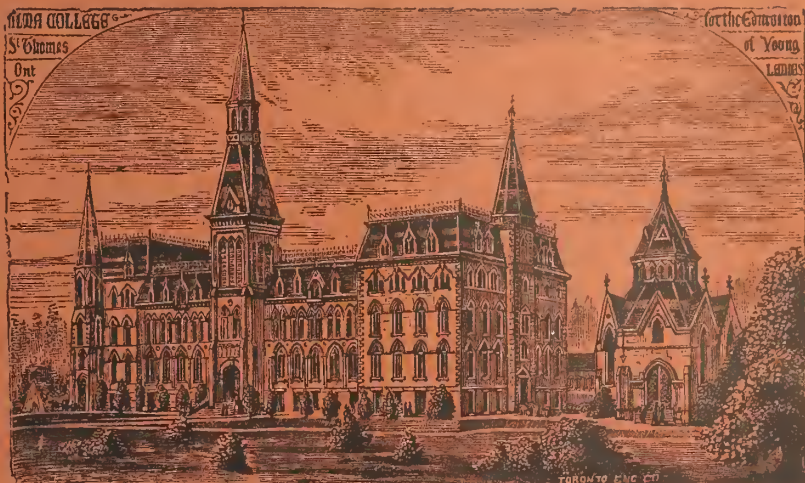
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THESE GOODS HAVE NO EQUAL FOR ELASTICITY, FINENESS
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